June 2, 1931. V. M. McCONNELL 1,808,564

AWNING

Filed Oct. 18, 1929

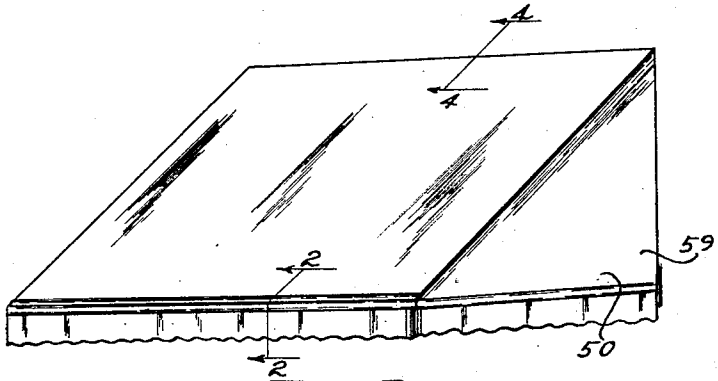


FIG-1

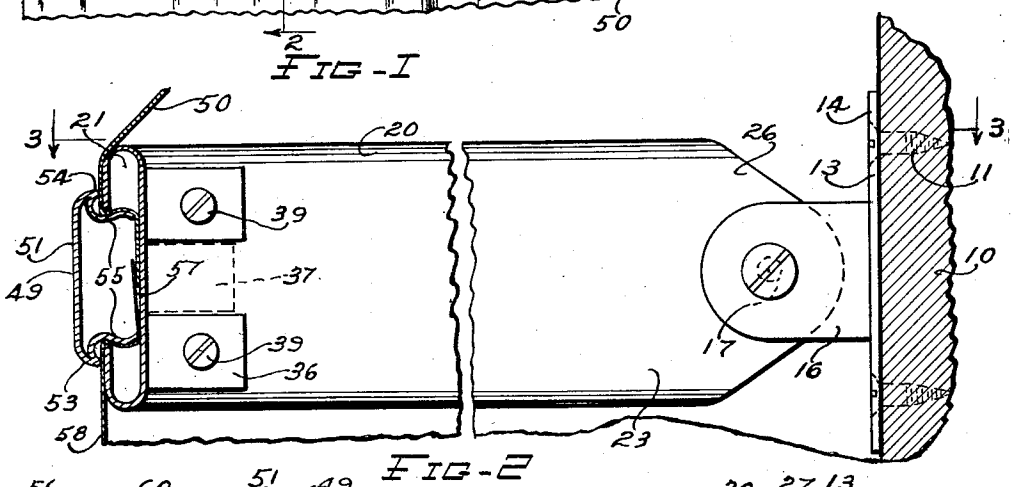


FIG-2

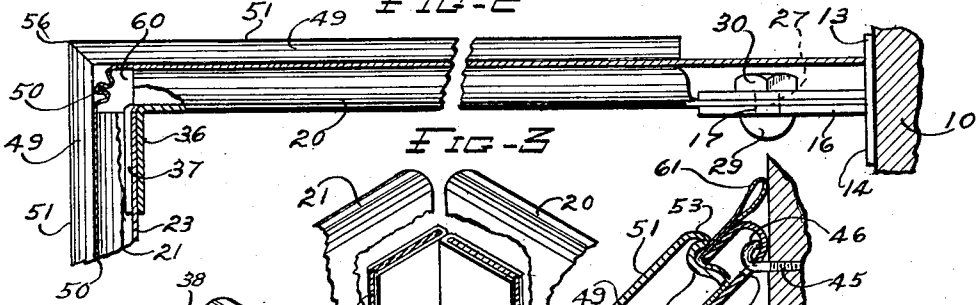


FIG-3

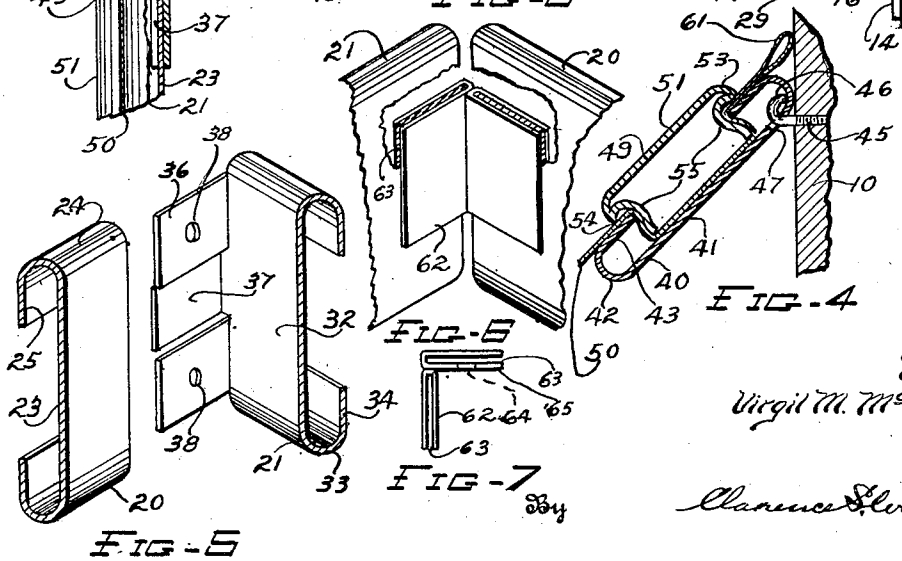


FIG-4

FIG-5

FIG-6

FIG-7

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UNITED STATES PATENT OFFICE

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AWNING

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This invention relates to an improvement in awnings and more particularly to one of knock-down type.

In its preferred embodiment this invention provides an awning frame comprising a plurality of readily assembled units and to which an unfinished awning cloth may be removably fastened without the attendant difficulties now encountered in connection therewith.

Prior to this invention awnings have generally been comprised of a frame, of suitably connected tubing, an awning cloth having marginal hems providing pockets into which the frame tubing is inserted. One of the faults of present structures is the inability to completely assemble the frame and subsequently thereto attach the awning cloth, the practice being to locate each piece of tubing in the proper hem and connect the protruding ends of said tubing to form the frame. By reason of the fact that it is generally necessary to employ one experienced in the manufacture and assembly of awnings to insure a finished job, the cost connected therewith is considerable. It is applicant's endeavor to produce an awning structure, as set forth in the following specification, which may be purchased directly from the awning manufacturer and assembled by the purchaser. This is made possible by the method of uniting the frame units as well as by reason of the fact that an unfinished piece of awning cloth, cut to desired size, is mounted on the frame through the use of removable clamping elements.

The principal object of this invention lies in the provision of a knock-down awning structure, the assembly of which may be easily made by those not necessarily skilled in awning manufacture or assembly.

Another object of this invention lies in the provision of an awning structure, the frame of which is assembled separately and prior to mounting the awning cloth.

A further object of this invention lies in the provision of a device of this class, the cloth of which is removably mounted upon the frame.

Other and further objects of this invention will be apparent from a consideration of the following specification when taken in conjunction with the accompanying drawings, and in which

Fig. 1 is a perspective view showing one modification of this invention in position of use;

Fig. 2 is a greatly enlarged sectional view taken substantially on the line 2—2 of Figure 1 and shows the method of pivotally connecting the side rails of the frame to a wall;

Fig. 3 is a plan view of the structure shown in Figure 2, being taken substantially on the line 3—3 of Figure 2;

Fig. 4 is an enlarged vertical sectional view taken substantially on the line 4—4 of Figure 1 and shows the manner of mounting the head rail upon a wall;

Fig. 5 is a perspective view showing the method of joining the front rail to the side rails of the frame;

Fig. 6 shows a modification of the means by which the front rail is joined to the side rails; and

Fig. 7 is a plan view of the bracket shown in Figure 6.

Referring to the drawings and particularly to Figure 2, the invention is shown mounted for use upon a wall indicated by the reference numeral 10. Secured to the wall by means of screw anchors 11 are brackets 13, the faces 14 of which are formed with suitable openings by which to receive the screws 11. Projecting outwardly from the face 14 are two flanges 16 parallel with and spaced apart from each other. Concentrically disposed openings 17 are formed in the flanges 16 for a purpose later to be described.

The awning frame is generally a U-shaped member formed by side rails 20 and front rail 21. The rails 20 are made from suitable gage sheet metal and are formed with an inner vertical wall 23. The wall 23 terminates top and bottom in substantially arcuate shoulders 24 which in turn terminate in inwardly turned flanges 25 spaced from and parallel with the wall 23. At the inner end of the rail 20, the wall 23 is extended

beyond the shoulders 24 to form a supporting flange 26 in which is drilled an opening 27. The flange 26 is inserted between the parallel flanges 16 of the bracket 13, the openings 17 and 27 being aligned and a bolt 29 is passed therethrough being secured by a nut 30. This constitutes the pivotal support for the U-shaped frame.

The front rail 21 is shaped identically with the rail 20, being formed to provide an inner wall 32, shoulders 33 and inwardly extending flanges 34. The ends of the rail 21, however, have projecting flanges which are a continuation of the rear wall 32. The top and bottom flanges 36 are vertically offset from the intermediate flange 37 and have drilled and tapped openings 38 therethrough. The flanges 36 and 37 are bent at right angles to the wall 32 of the rail 21 and adapted to engage the wall 23 of the rail 20, the flanges 36 being against the outer face and the flange 37 against the inner face of said wall. When the rails 20 and 21 are joined together, screws 39 are engaged with the walls of the openings 38, being turned down to press against and frictionally engage the wall 23 of the rail 20. Since no direct strain by which the cause disengagement of the rails occurs, the screws 39 are sufficient to prevent inadvertent dislodgment of these members.

A head rail 40, having an inner wall 41, curved shoulders 42 and flanges 43, is mounted against the building wall 10 and supports the upper edge of the awning cloth. Screw anchors 45, having hook shaped heads 46, are mounted at intervals in the wall 10. A number of openings 47 are formed in the wall 41 of the rail 40, being engaged by the hooks 45. Because of this type of support, the rail 40 is permitted a certain amount of pivotal movement upon the hook 45 when the awning is raised or lowered. The hook 45 further permits this rail, when the awning is lowered, to be directed at the same angle or slope the awning cloth assumes.

As shown in Figures 2, 3 and 4 of the drawings, clips 49 are provided by which to secure the awning cloth 50 to the side, front and head rails 20, 21 and 40. These clips are formed with face walls 51, the upper and lower edges of which terminate in inwardly curved shoulders 53. The shoulders 53 are doubled back upon themselves to form contacting edges 54 and are then curved inwardly and again outwardly to form spring flanges 55. The clips 51, mounted on the rails 20, terminate at their inner ends adjacent the flange 26 and at their outer ends are cut at an angle to form a mitered joint 56 with the clip 51 mounted on the front rail 21. A further clip 51, identical in size and shape with the clips already described, is mounted in the head rail 40 and constitutes the upper supporting means for the awning cloth 50.

Referring now to Figures 6 and 7 of the drawings, it will be noted that a slight modification is shown by which to join the front rail 21 to the side rails 20. In this instance, two U-shaped members 62 are joined at right angles to each other, in any suitable manner as by welding, and are adapted to receive in the pockets 63 thereof the inner wall 23 of the rail 20 and the inner wall 32 of the rail 21. Drilled and tapped openings 64 are formed in the inner wall 65 of the member 62 and screws 39 are inserted in the openings to create frictional engagement between the elements 62 and the side and front rails 20 and 21.

The assembly of an awning made in accordance with the above description is as follows: The brackets 13 and hooks 45 are mounted upon the building wall or other fixture. The U-shaped frame, comprised of rails 20 and 21, may be next assembled by engaging the flanges 36 and 37 of the rail 21 with the inner wall 23 of the rail 20. Screws 39, inserted in the openings 38 of the flanges 36, are turned down to frictionally engage the inner wall of the rails 20 and thus tie these elements together. The awning cloth 50 is now laid out upon the U-shaped frame in a manner such that the lower edge 57 completely covers the longitudinal opening between the flanges 34 of the rail 21. Since it is customary to form awnings with a depending fringe, such a fringe in the form of a strip 58 is laid against the rail 21 in a manner such that the upper edge thereof is adjacent the upper flange 34 of said rail. It will be noted that the lower edge of the awning and the upper edge of the strip 58 overlap and completely close the space between the flanges 34 in the rail 21. The clip 51 is now placed against the outer face of the rail 21 and pressed inwardly thus causing the flanges 55 to move the awning cloth into the rail 21 and hold it against the inner wall 32 thereof. The awning cloth is also engaged between the clip flanges 55 and the flanges 34 of the rail 21 to further prevent slipping, the contacting surfaces 54 causing said cloth to be positioned against the walls of the flanges 34. It will readily be understood that when the clip 51 has been snapped into place in the rail 21, neither the awning cloth 50 nor the strip 58 may be withdrawn by reason of the triple frictional engagement of said elements with said cloth. The contacting surfaces 54 perform a further function, namely, that of preventing water or dampness from penetrating to the interior of the rail 21 and thus rot or weaken the awning cloth along its engaging edge.

The side walls 59 of the awning cloth 50 are secured to the rail 20 in the identical

manner with that above described. Since there is a slight pucker of the awning cloth where the front rail joins the side rails, said rails are not mitered but form rather, when the clips 51 are in place, a pocket 60 in which said pucker or gathering occurs. To secure the upper longitudinal edge of the awning to the rail 40, the cloth is doubled back upon itself to form a loop or fold 61. The double cloth is then laid upon and covers the opening in the rail and the clip 51 is snapped into engagement with said rail to retain the cloth in place.

The awning cloth now being supported upon the U-shaped frame and rail 41, the entire structure may be placed in position for use by engaging the hooks 45 with the rail 40 and mounting the flanges 36 of the rails 20 in the brackets 30. The usual ropes may then be attached by which to facilitate raising and lowering the awning.

While only one modification of this invention has been shown and described, applicant does not intend to be limited thereto since it is obvious that other modifications or adaptations may be made without departing from the spirit and scope of this invention as set forth in the hereunto annexed claims.

Having thus set forth my invention what I claim as new and for which I desire protection by Letters Patent is:

1. An awning comprising a frame having front, side and head rails, inwardly turned flanges defining a longitudinal opening in each of said rails, means in said front rail engaging and frictionally securing said side rails thereto, awning cloth mounted on said frame and further means engaging the walls of said rail opening and anchoring said cloth to said rails.

2. In an awning, a frame having front and side rails, inturned flanges defining a horizontal opening in each of said rails, means on said front rail engaging and frictionally joining said side rails thereto, awning cloth mounted on said frame, and clips engaging said flanges, said clips causing said cloth to be anchored to said rails.

3. In an awning, a frame having front and side rails, inturned flanges defining a longitudinal opening in each of said rails, means on said front rail engaging and frictionally joining said side rails thereto, awning cloth mounted on and covering the openings in said frame, and clips engaging said rails, said clips being adapted to force said cloth into contact with said rails.

4. In an awning, a frame having front and side rails, inturned flanges defining a longitudinal opening in each of said rails, means on said front rail engaging said side rails, awning cloth mounted on and covering the openings in said rails, clips, spring flanges defining the longitudinal edges of said clips, said clip flanges being adapted to engage said rail flanges whereby to secure said cloth between said rail and clip flanges.

5. In an awning, a frame having front and side rails, means joining said rails, said means comprising flange elements on said front rail engageable with said side rails, screws mounted in said elements and frictionally engaging said side rails.

6. In an awning, a frame having front and side rails, flanges defining a longitudinal opening in each of said rails, angular flange elements on said front rail engaging said side rails, awning cloth mounted on and covering said rail openings, and clips interengaged with said rails, said clips being adapted to secure said cloth to said rails.

In testimony whereof I have affixed my signature.

VIRGIL M. McCONNELL.