Jan. 24, 1956 A. SILVERS ET AL 2,731,685

AWNING CONSTRUCTION

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Fig. 3.

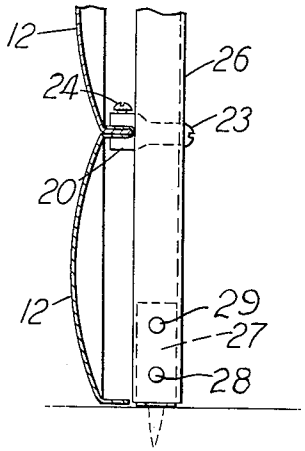
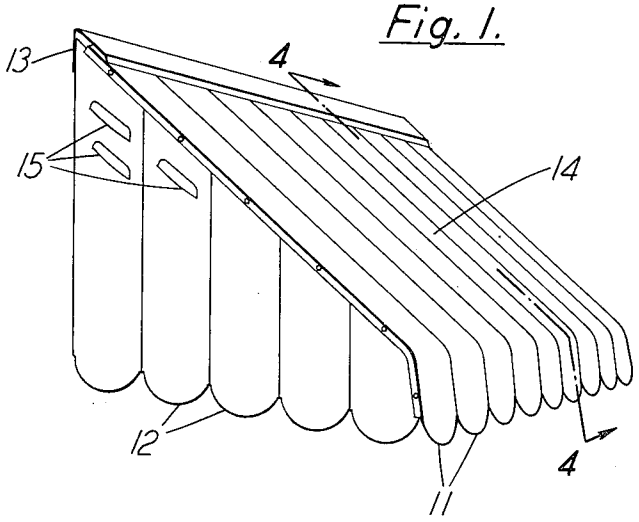


Fig. 1.



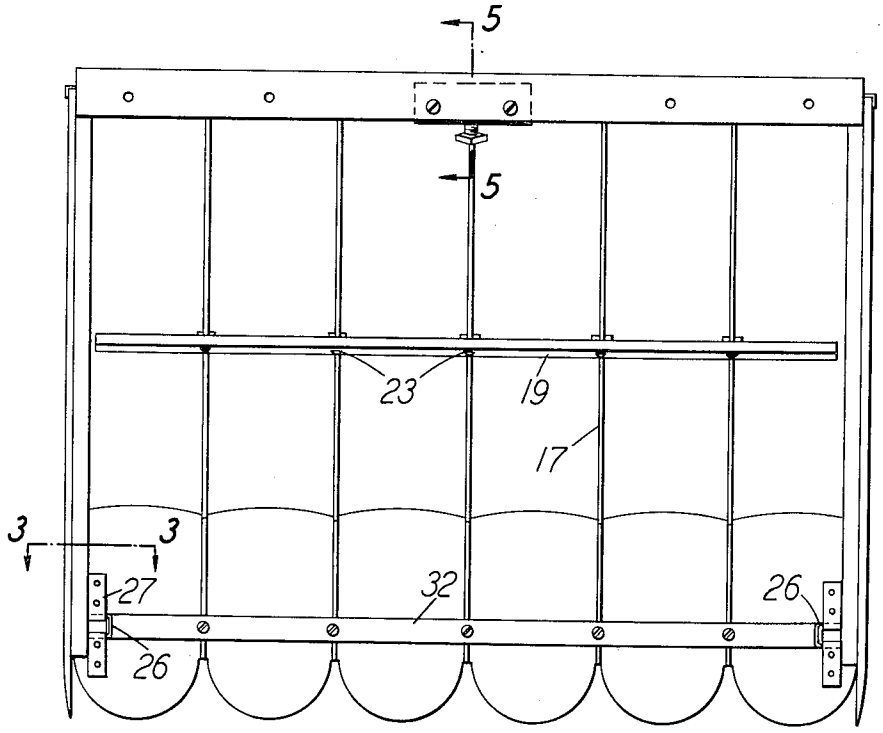


Fig. 2.

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Fig. 4.

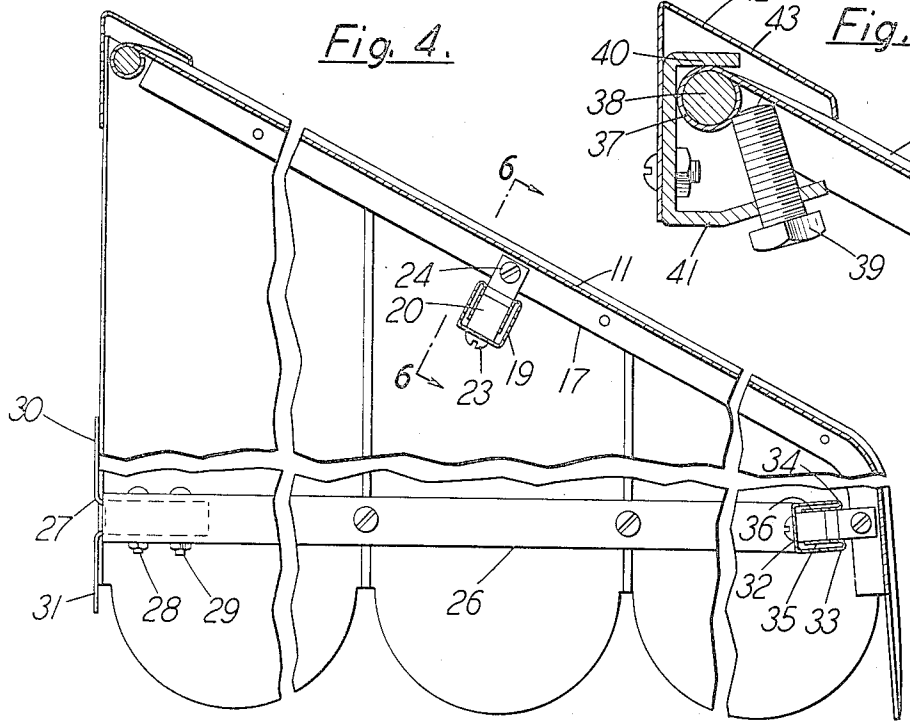


Fig. 5.

Fig. 6.

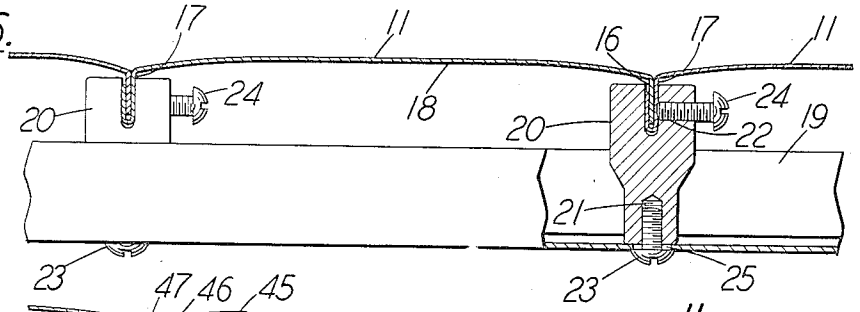


Fig. 7.

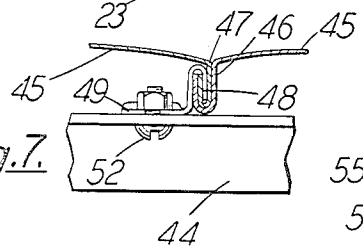


Fig. 11.

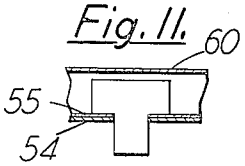


Fig. 9.

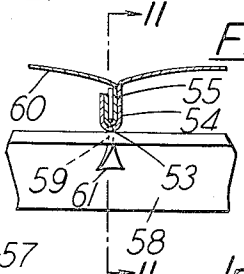


Fig. 8.

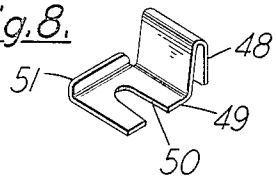
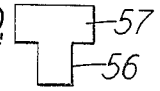


Fig. 10.



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AWNING CONSTRUCTION

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Application November 29, 1951, Serial No. 258,805

8 Claims. (Cl. 20—57.5)

The present invention relates to awning construction. A series of metal salts is united in a rigid structure to form a shelter surface, and these slats are braced to maintain the form of the awning by a set of beams connected to the slats in a novel manner. Several variations within the general principle of the invention are presented, as are other related details of construction.

Due to the presence of a large and competitive market for these articles, cost has become a matter of principal importance in their production and installation. The cost of forming the separate components is sometimes small in comparison to the cost of assembling and installing. The objective of the present invention is to provide an awning construction having great strength and durability while preserving ease of assembly and maximum interchangeabiilty of parts between awnings of various sizes. It is the general practice in this industry to manufacture the components of an awning in a central location, and to ship a quantity of these components to local distributors and dealers who install the units to order based upon the specific requirements of each installation. Due to this custom, the cost of assembly and installation becomes of even greater importance than is the case in other types of manufacturing when all operations are done upon the carefully organized arrangement of a factory. It is of great importance, therefore, that the assembly and installation operations be not only simple, but that they be performed with a minimum of special tools and with the smallest possible requirement of special skills on the part of the workmen.

The construction provided by the present invention includes a series of preferably parallel slats having their edges formed in a fashion to permit them to interlock. The edge of one slat is adapted to receive the edge of the adjacent slat, and this function is provided for by forming the edges of the slats with a U-shaped flange having the sides of the U generally in planes perpendicular to the awning surface. The edges of the slats, after they have been engaged, may be pinched together to secure them more tightly and avoid rattling, and they are also secured by auxiliary clamping means having the added purpose of connecting the slats at the flanges with transverse beams provided for establishing the formation of the awning. Several forms of these clips or clamping means are presented herein, and a preferred form of beam construction is also provided in which the clamps or clips are concealed from view.

The upper portion of the awning is formed to facilitate the use of a hanging bracket that is secured to the building above the window where the awning is to be located in an arrangement that greatly simplifies the installation of the unit. An enlarged member is provided at this part of the awning surface, and the bracket is adapted to receive this member in a clamp. The weight of the awning is supported thereby so that its position may be easily adjusted, and permanent screws or bolts may then be run into the wall of the building. The clamp is associated with a cover strip that extends beyond the opening existing between the upper edge of the awning and the wall to prevent any influx of water at this point. Preferably, the clamps and this strip are installed together previous to the attachment of the awning to the clamp.

The several features of the present invention will be discussed in detail through an analysis of the particular embodiments illustrated in the accompanying drawings. In these drawings:

Figure 1 is a perspective exterior view of an awning constructed according to the present invention.

Figure 2 is a rear elevation, as viewed from the side which is to be attached to the building.

Figure 3 is an enlarged section taken on the plane 3—3 of Figure 2.

Figure 4 is a section taken on the plane 4—4 of Figure 1.

Figure 5 is an enlarged section taken on the plane 5—5 of Figure 2.

Figure 6 is an enlarged section taken on the plane 6—6 of Figure 4.

Figure 7 shows a modified form of the present invention from that indicated in the previous views.

Figure 8 shows an enlarged perspective view of the attaching clip used in the Figure 7 construction.

Figure 9 presents another modification of the present invention.

Figure 10 shows a view of the sheet metal clip used in connection with the Figure 9 construction; and

Figure 11 is a sectional view taken substantially on line 11—11 of Figure 9.

Referring to Figure 1, a series of individual slats 11 are secured together to form the top surface of an awning. Other slats, similarly formed in cross section, are indicated at 12, which form the sides of the unit. A drip cap 13 is formed as an angle in cross section, the upper edge of which projects beyond the space between the surface 14 and the building with which the awning will be associated. Louvers as indicated at 15 are provided to assure ventilation by permitting the exit of warmed air that may have accumulated under the awning.

Referring to Figures 2, 4 and 6, the slats 11 are each formed with one edge having a single flange 16 formed in a direction generally perpendicular to the plane of the series of slats. The opposite edge of the slats is formed with a flange having a U-shaped cross section as indicated at 17, and is adapted to receive the flange 16 of the adjacent slat. It will be noted that when the slats are assembled together in this fashion, no sharp edges are presented to the outer surface 14 of the awning. This arrangement becomes particularly important in view of the manner in which the slats are manufactured. Paint is applied to the outer surfaces, but it is impractical to apply it also to the edges of the sheets. The construction shown herein conceals the edges of the sheets, and also conceals all of the inner surface of the slat 18 which may be covered with a less expensive coating. When the edges are assembled together as shown in Figure 6, flanges may be crimped or pinched together to inhibit any relative movement therebetween which might cause objectionable rattling. Whether or not this is done, an arrangement is provided for securing the slats to transverse stiffening beams which also has the effect of firmly securing the edges of the slats in assembled relationship. Referring to the cut-away portion of Figure 6, a transverse beam 19 is formed in a U cross section so as to conceal the series of clamping members 20. Preferably, these clamping members are formed from cut-off pieces of extruded material having the cross section illustrated in Figure 6. These pieces are provided with the tapped holes 21 and 22 to receive the screws 23 and 24. The screw 24, when tightened in position, will effectively clamp the engaged edges of the slats together, and will also firmly secure the

clamping member **20** to the slats so that the rigidity of the beam **19** will suffice to maintain the slats in proper relationship. Preferably, a somewhat elongated hole is provided at **25** in the beam **19** to receive the screw **23** to compensate for small misalignment in the positioning of the clamps **20**.

The side beams **26** are similar in form to the beam **19**, and act in conjunction with similar clips **20** in the same fashion as indicated in the construction shown in Figure 6. An end-fitting **27** (refer to Figures 3 and 4) is secured to the inner end of the beam **26** by the bolts **28** and **29**. The fitting **27** has the oppositely-disposed flanges **30** and **31** having suitable holes to receive fastenings passing into the building on which the awning is mounted.

The formation of the beam **26**, while generally U-shaped in cross section preferably includes a double-wall arrangement as best indicated in Figure 4. Figure 4 shows a cross section of the front beam **32**, and this formation is preferably also used for the beams **19** and **26**. The double-side wall arrangement is formed by an inward bending of the material of the wall to form the rounded edges **33** and **34**, and the inner walls **35** and **36**. This arrangement has the advantage of providing a greater strength for a given quantity of material due to the tendency of the double-wall arrangement to stiffen and stabilize the sides of the beam **19**. The arrangement also has the effect of presenting a smoothly-rounded edge rather than a sharp, sheared edge, and minimizes the danger of injuring workmen as they handle these components.

Referring to Figure 5, the upper ends of the top slats **11** are rolled as indicated at **37** to receive a rod **38**, which unites the upper edges of the slats **11** and establishes a strong edge to the assembled unit. Additionally, the solid cross section of the rod **38** provides a firm foundation against which the clamping action existing between the set screw **39** and the flange **40** of the bracket **41** may act without distorting the awning. The rolled section **37**, together with the rod **38**, provides a point of considerably increased thickness over the remainder of the slats **11**, and this point is very convenient to grasp with clamping action, such as is indicated in Figure 5. Preferably, a drip cap **42** is formed with angular cross section, the upper surface **43** being such as to extend beyond the area between the rolled section **37** and the wall against which the awning is secured. The drip cap **42**, together with the clamp **41**, are secured to the wall before the awning is placed in engagement with the clamp **41** as shown in Figure 5. After the engagement has been completed, the weight is effectively supported by the bracket **41**, and the position of the awning may be easily adjusted and the fastenings driven into the wall through the fittings **27**.

The modification of the present invention illustrated in Figure 7 involves a different shape of transverse beam, and a different way of securing the slats to the beam for maintaining the formation of the awning. A beam **44** is preferably angular in cross section, and the slats **45** are formed with the mating U-shaped sections **46** and **47**. The flange **46** is adapted to receive the flange **47** within it as shown, and the slats **45** are formed with one edge in the shape of the flange **46**, and the opposite edge in the shape of the flange **47**. The inner flange **47** is adapted to receive the tongue **48** of the clip **49**. When the clip **49** has been inserted in position as shown in Figure 7, it will adequately assure that the flanges **46** and **47** remain in engagement, and will also secure the slats **45** to the beam **44** with the same general effect as the construction shown in Figure 6. Referring to Figure 8, the clip **49** is formed preferably of sheet metal as shown, and is provided with the elongated slot **50** permitting the insertion of the clamp in a direction perpendicular to the beam **44**. The stiffening web **51** adds structural rigidity to the base of the clip **49**, and is recommended in view of the large amount of material removed by the slot **50**. The bolt **52**, after assembly, will serve the same general purpose as the screw **23** of Figure **6**. The clip **49** may also be formed with a tapped hole permitting a screw similar to the bolt **52** to be inserted without the necessity of a nut on the back face.

Referring to Figures 9, 10 and 11, another modification of the present invention is illustrated in which a T-shaped piece is used to serve the function of uniting the slats to the transverse beams. Suitable slots are provided in the rounded edges **53** of the flanges **54** and **55** capable of receiving the inner end **56** of the T-shaped locking member **57**. The beam **58** is also provided with a slot **59** adapted to receive the inner end **56**. The assembly of the beam to the slots **60** is accomplished by inserting the locking member **57** in position through the slats at **53** and **59**, and then twisting the protruding end **61** as indicated in Figure 9. After the twist has been completed, it will be found that the flanges **54** and **55** will be locked in engagement, and that the slats will be correspondingly secured to the beam **58**.

The particular embodiments illustrated in the accompanying drawings and discussed herein are for illustrative purposes only and are not to be considered as a limitation upon the scope of the appended claims.

We claim:

1. An awning construction, including a pair of edge-to-edge interconnected elongated panel forming slats, said slats each including an uninterrupted top panel portion having on one edge a first downwardly directed planar flange, and on an opposite edge a second downwardly directed planar flange including a bight portion terminating in an upwardly turned portion defining an upwardly opening channel terminating and disposed entirely below and laterally spaced from said top panel portion, said channel embraceably receiving in uninterrupted contact between side wall portions thereof opposite sides of the first downwardly extending planar flange of an adjacent interconnected slat, a transverse support member for said slats, a securing member including a recess portion receiving said interconnected slats therein, and means for applying force to the interconnected slats while received in the recess for fixedly retaining the first downwardly directed flange in the upwardly opening channel, the securing member having direct fastening engagement with both said second downwardly directed flange and its upwardly turned portion and retaining said first downwardly directed flange therebetween, said means for applying force to the interconnected slats comprising fastening element means transversely extending through one side of the securing member and intersecting the recess portion thereof for direct engagement with an outer surface portion of the upwardly opening channel.

2. An awning construction as set forth in claim 1 wherein said transverse support member includes a cross sectional configuration of an upwardly opening U-shaped channel including side portions connected by a web portion, said side portions terminating in inwardly turned portions terminating above the web and defining an inner resilient gripping portion, said securing member including a lower end portion resiliently engaged by the resilient gripping portion of said transverse members, and fastening means fixedly securing the securing member in said transverse member.

3. An awning construction as set forth in claim 1 wherein said securing means recess includes opposed side walls engaging outer side walls of the interconnected flanges for retaining the latter in interengagement.

4. An awning construction as set forth in claim 1 wherein said fastening element means comprises a fastening element secured in transverse relation to said securing member and including an end portion extendable into the recess portion thereof for engagement with an outer surface portion of said upwardly open channel.

5. An awning construction as set forth in claim 4 wherein said fastening element comprises a screw element.

6. An awning construction including a plurality of edge-to-edge interconnected elongated panel forming slats,

said slats including a top panel portion including on one edge a downwardly directed planar flange, and on an opposite edge a downwardly directed planar flange connected to an upwardly directed substantially parallel planar portion defining an upwardly opening channel portion extending away from and below the top panel portion of a slat, said channel embracingly receiving in uninterrupted contact between said wall portions thereof the downwardly extending planar flange of an adjacent slat, a transverse support member extending beneath said slats, and a securing member carried on said transverse support member, said securing member including an upwardly opening slot portion embracingly engaging opposite outer side portions of said channel portion, fastening element means extending into the securing member and including an end portion extending into the slot portion of the securing member and clampingly engageable with the channel portion and planar flange therein, and means fixedly securing a lower end portion of said securing member on the transverse support member.

7. An awning construction as set forth in claim 6 wherein said transverse support member includes a cross sectional configuration of an upwardly opening U-shaped channel including side portions connected by a web portion, said side portions terminating in inwardly turned portions terminating above the web and defining an inner resilient gripping portion, said securing member including a lower end portion resiliently engaged by the resilient gripping portion of said transverse members, and fastening means fixedly securing the securing member in said transverse member.

8. An awning construction as set forth in claim 6 wherein said fastening element means comprises a fastening element secured in transverse relation to said securing member and including an end portion extendable into the recess portion thereof for engagement with an outer surface portion of said upwardly open channel.

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