ABSTRACT

A modular structure for attachment to roof supports of awnings and ramadas is disclosed. The structure includes a plurality of interlocking sectionized sleeves circumscribing the roof supports. Single or dual arches, which arches are also interlocking and sectionized, are secured intermediate the upper extremity of the sleeves and the roof of the awning or ramada. The exterior surface of the structure may be brick, stucco, etc., to blend with the adjacent structure or to dramatize the awning or ramada.

12 Claims, 18 Drawing Figures
3,902,294 MODULAR BUILDING FACADES

The present application is a continuation-in-part of a patent application entitled "MODULAR BUILDING FACADE" filed on May 25, 1973, and assigned Ser. No. 363,865, now U.S. Pat. No. 3,842,557 and describing an invention conceived and reduced to practice by the present inventor.

The present invention relates to structural facades, and, more particularly, to sectionalized facades attachable subsequent to the completion of a dwelling structure.

Awnings, particularly those attached to trailers, mobile homes, and the like, usually are supported by aesthetically unattractive steel or aluminum posts. These posts add nothing to the overall decorative impression of the dwelling unit. Similarly, ramadas usually include little more than a roof supported by any one of various types of posts. In both of these types of structures, the costs must necessarily be kept low and therefore prohibits the construction of aesthetically attractive support members.

As the cost factors prevent the awnings from being in aesthetic conformance with the main structure, they invariably look like add-ons and are generally considered to be eyesores. Ramadas, serving the primary purpose of temporarily shielding the occupants thereof against the sun and rain, must be limited in cost in order to be economically feasible. The cost limitation necessarily prevents the ramadas from being built to conform with the surrounding typography or adjacent structures.

It is therefore a primary object of the present invention to provide a structure circumscribing the posts supporting a roof to give the posts decorative value.

Another object of the present invention is to provide a facade for roof supports, which facade may be mounted subsequent to the construction of the roof support.

Yet another object of the present invention is to provide a plurality of sectionalized interlocking sleeve halves mounted about a roof support.

Still another object of the present invention is to provide a plurality of sectionalized interlocking half members disposed about the junction of a roof and the supports for the roof.

A further object of the present invention is to provide an interlocking assembly for attachment about existing roof supports and which extends adjacent the lower surface of the roof.

A yet further object of the present invention is to provide an inexpensive and easily manufacturable multi component facade for roof supports.

A still further object of the present invention is to provide a readily errectible facade for roof supports.

These and other objects of the present invention will become apparent to those skilled in the art as the description thereof proceeds.

The present invention may be described with more specificity and clarity with reference to the following drawings, in which:

FIG. 1 is a perspective view showing the present invention attached to each of a plurality of existing roof supports.

FIG. 2 is a detailed perspective view of the structure of the present invention.

FIG. 3 is a cross-sectional view of the present invention mounted about a roof support.

FIG. 4 is an exploded view of the elements of the present invention.

FIG. 5 is an exploded view illustrating the interlocking features of the present invention.

FIG. 6 illustrates a single half arch constructed in accordance with the present invention.

FIG. 7 illustrates an interlock between adjacent sleeves of the present invention.

FIG. 8 illustrates a further interlock of adjacent sleeves of the present invention.

FIG. 9 is a perspective view showing a variant of the present invention in its assembled form.

FIG. 10 is an elevational view of a section for circumscribing a roof support.

FIG. 11 is a further elevational view of the section shown in FIG. 10.

FIG. 12 is an end view of the section shown in FIG. 10.

FIG. 13 is a cross-sectional view of the section shown in FIG. 10, taken along lines 13—13.

FIG. 14 is a cross-sectional view of a pair of stacked sections, taken along lines 14—14, as shown in FIG. 10.

FIG. 15 is a perspective view showing a variant of the member disposed at the junction between the roof support and the roof.

FIG. 16 is a cross-sectional view taken along lines 16—16, as shown in FIG. 15.

FIG. 17 is an exploded view of the sections of the single half arch.

FIG. 18 is an exploded view of the sections of the dual half arch.

Referring to FIG. 1, there is shown an existing roof 1, which roof may be an awning or part of a ramada or other similar structure. The roof 1 is supported by a plurality of roof supports 2 acting upon a beam 3, which beam lies intermediate the roof supports and the roof. In general, roof supports 2 are simply metal or wooden supports performing the mundane function of supporting roof 1. For the type of structures, such as awnings and ramadas, the cost factor, which are paramount, prevent the roof support 2 from being aesthetically attractive, except by chance, as they are configured simply as load bearing members.

With the present invention, it becomes possible to convert the mundane structurally engineered roof supports 2 into aesthetically attractive members forming an integral part of the overall dwelling. A plurality of sleeves 5 are fitted about each of roof supports 2. The sleeves may be externally textured to simulate stucco, brick, or painted wood, and thereby conform with the overall exterior surface of the dwelling. If the sleeves 5 are intended to depict brick, the junction between adjacent sleeves should be configured to simulate the mortar joint intermediate the rows of brick. If the sleeves 5 are intended to simulate stucco, the junction between adjacent sleeves should be minimized.

The structure intermediate sleeves 5 and the roof line, represented by beam 3, may be formed as dual half arches 6 for each of the interior posts 2 and as single half arches 7 for the end posts. Both the dual half arches and single half arches interlock with the respective adjacent sleeves 5 and are fixedly secured to the undersurface of beam 3. The exterior of dual arches 6 and single arches 7 matches that of sleeves 5.
The architectural configuration shown (arches) may, of course, be varied to suit the adjacent or surrounding structures and dwellings without departing from the teachings of the present invention.

Further details of the structure described with respect to FIG. 1 are shown in FIGS. 2 and 3. Each of sleeves 5 are formed of a U-shaped female member 10 and a U-shaped male member 11. The male member 11 includes a pair of flanges 12, which flanges fit interior to the arms of female member 10. At the extremity of flanges 12 there is a protrusion 14 cooperating with a recess 13, which recess is disposed within the arms of male member 10, to interlock the male and female members. Further, the female and male members 10 and 11, respectively, are joined to one another at miter joints 15 and 16, such that the only external visual evidence of the two part construction of the sleeve 5 is a slight indetectable crack along two of the corners of the sleeve.

The internal dimensions of the members forming sleeve 5 may be configured to exactly fit the circumscribed roof support 2. Alternatively, packing material (not shown) may be disposed intermediate roof support 2 and internal surfaces of the sleeve to prevent movement therebetween.

The dual arch 6 is formed mobile a female and male member, 20 and 21, respectively, which are secured to one another. Female member 20 includes side 24, lateral sides 26 forming the arches, and upper surface 23. An aperture 22 is disposed within upper surface 23 to permit roof support 2 to extend therethrough. The lower part of female member 20 is apertured to also permit roof support 2 to extend therethrough.

The female and male members 20 and 21 may interlock in a manner similar to that described for sleeves 5 or they may be secured to one another by means of screws, nuts and bolts, etc. Dual arch 6, may be secured to the lower surface of roof support 3 by means of screws, nuts and bolts, etc.

As shown in FIG. 2, surface 24 may be ornamented with simulated brick 25 along the curved extremity of surface 24. Intermediate the simulated bricks, there may be stucco finish. It is to be understood, of course, that the ornamentation used is variable depending upon the intended overall aesthetic effect of the present invention.

In FIG. 4, there is shown a further configuration of the assembly generally described in FIGS. 1 through 3. Herein, there is shown a plurality of sleeves 5, a collar 8, and a dual arch 6 configured in the architectural style generally referred to as Colonial. The total assembly envelopes and hides roof support 2 and performs an aesthetic function in rendering the roof support an attractive element of the dwelling. A plurality of apertures 27 are disposed at the outward extremities of dual arch 6. These apertures receive the screws or bolts to fasten the dual arch to the adjacent roof beams. The lateral interlock as shown and described with respect to FIGS. 2 and 3 are incorporated in the configuration shown in FIG. 4. In addition, the sleeves, collar and dual arch shown in FIG. 4 include a vertical interlock, which interlock is generally referenced by number 30.

The vertical interlock 30 is shown in further detail in FIG. 5. Each of the male and female members 20 and 21 include vertically extending shrouds 31 and 32. Each of these shrouds are inset from the exterior surface of the respective members to provide a horizontal seat 33 and 34 on each member. The external dimensions of shrouds 31 and 32 are configured to mate with the internal sides of the immediately upwardly adjacent sleeve 5. Thereby, relative lateral movement between adjacent sleeves 5 is prevented. Seats 33 and 34 provide support for the immediately upward adjacent sleeve 5. The single half arch 7, as shown in FIG. 1, is shown in further detail in FIG. 6. The half arch 7 includes an aperture 36 disposed within the upper surface 37 and a similar aperture disposed within the lower part of the single half arch. These apertures are configured to receive the end roof support, as shown in FIG. 1. An aperture 38 may be disposed at the lateral extremity of the upper surface to receive a screw or bolt for attaching the half arch to the roof beam. The construction of the half arch 7 is similar to that described with respect to the dual half arch, including the vertical interlock 30.

In FIGS. 7 and 8, there are shown various forms of the interlock 30. In example, a ridge 40 may be disposed along the external edge of the seat 33 (see FIG. 5) whereby a channel 41 is formed intermediate ridge 40 and shroud 31. The lower edge of the vertically adjacent sleeve 5 includes a further ridge 42, which ridge fits within channel 41. With this configuration, the upper and lower edges of sleeves 5 are securely interlocked with one another.

To obtain a snap-action interlock, shroud 31 may include a protrusion 43 extending along its upper edge. Protrusion 43 mates with and is received within a recess 44, which recess is disposed within the internal side of the immediately adjacent sleeve 5. With this configuration, the adjacent sleeves 5 are less likely to slide with respect to one another along the vertical axis.

Referring to FIG. 9, there are shown variants of the single half arch 50, dual half arch 51 and sections of the roof support sleeves 52. These variants were developed to simplify and reduce the manufacturing costs of the above described corresponding elements without departing from the inventive concepts embodied therein. The variant sleeve 52 will be described with combined reference to FIGS. 10, 11, 12 and 13. The face 55 of sleeve 52 may be configured as a simulated brick structure, as shown. In the alternative, it may have a simulated stucco surface, painted wood surface or other decor aesthetically commensurate with the effect to be achieved by the facade. The sleeve is formed of two identical sections 56, 57, each of which define two adjacent sides, assuming that the sleeve is rectangular in cross-section. Should the sleeve not be rectangular, each of sections 56 and 57 would be formed as one half of whatever the cross-sectional configuration might be. The vertical edge of the shorter side of each of sections 56 and 57 terminates in a centrally disposed tongue 58 and 59, respectively. Vertically oriented grooves 60 and 61 are disposed within the lateral surfaces of the longer sides of sections 56 and 57, respectively. These grooves are cross-sectionally configured to mate with the respective one of tongues 58 and 59. The tongues, grooves and shoulders therefor may be curved as shown in FIG. 13 to provide a self-aligning fit and to simplify the manufacturing processes. As further illustrated in FIG. 13, the mating of the tongues with their respective grooves not only provides a physical interlock but also aligns the exterior surfaces of sections 56 and 57 with one another so to as to present a smooth and not easily visually detectable junction therebetween.
The stacking capability of sleeves 52 is provided by an upwardly extending flange 65 along the upper edge of the sections of the sleeves and positioned inwardly from the face of the respective section. A similar flange 66 extends downwardly from each section of sleeve 52. Flange 66 extends horizontally about the lower edge of each section and is oriented inwardly from the facing of the section to permit it to slidably engage the inner vertical surface of the upwardly extending flange 65 of the immediately adjacent lower sleeve 52, as shown in FIG. 14. In addition, a slot 67 is disposed intermediate the base of flange 66 and the facing of the respective section, which slot receives the upper horizontal edge of flange 66 extending upwardly from the adjacent sleeve 52.

The amount of interlock between flanges 65 and 66 is determined by the depth of slot 67 and the width of flange 65 commensurate with the decorative facing 55 of sleeve 52. For the simulated brick configuration shown, the relative dimensions of slot 67 and flange 66 are such as to provide a slight gap between the facing 55 of adjacent sleeves 52, which gap simulates the recessed mortar. Thereby, the joint between adjacent sleeves 52 will be camouflaged and not readily visually apparent. Where facing 55 is relatively continuous such as a stucco finish, slot 67 is configured sufficiently deep to receive the full width of flange 66 and thereby permit the surfaces 55 of adjacent sleeves 52 to be positioned next to one another.

Where bracing is necessary to secure sleeve 52 to the circumscribed roof support, a brace 70 may be employed, as shown in FIG. 14. One end of brace 70 is secured to the roof support by conventional means extending therefrom and terminating in a lip 71. The length of brace 70 must, of course, be commensurate with the distance between the roof support and the interior of sleeve 52. Lip 71, formed at the other end of brace 70, is attached to flange 65 by a rivet 72, or the like. To accommodate the head of rivet 72, the outer surface of flange 65 is recessed to form sufficient spacing intermediate flanges 65 and the inner surface of flange 66 to accommodate the rivet head. It is to be understood that the amount of this spacing may be modified to accommodate attachment means other than rivets.

As one of the purposes of the present invention is that of reducing the manufacturing costs to a minimum, it may be appreciated that the sleeve 52 described above accomplishes this purpose. That is, the sections of the sleeve are identical to one another and thereby can be formed from the same mold if the sleeves are made of moldable material. Even if the sleeves are not made of moldable material, only a single jig or a plurality of identical jigs are necessary to mass-produce the sections forming the sleeve. Thus, the configuration illustrated in FIGS. 10-14 has been maximized in simplicity.

Referring to FIGS. 16 and 17, there is shown a junction member 80 adapted to mate with the uppermost one of sleeves 52 and circumscribing the junction between a roof support and the lower surface of the roof. The junction member shown is configured to simulate the frieze of an ionic column but may simulate other standard or novel friezes. The upper edge of junction member 80 includes a peripheral lip 81, which lip is positioned adjacent the lower surface of the roof and secured thereto by means such as nails, screws or bolts.
A flange 98 depends downwardly from the lower extremity of planar member 87. The dimensions of flange 98 are such that it is positionable within the upwardly extending flange 66 (see in example FIG. 16) of the immediately adjacent sleeve 52. A similar flange 99 extends downwardly from the lower extremity of cover 90. Flange 99 also mates with another section of the upwardly extending flange 66 from the adjacent sleeve 52. Thereby, single half arch 50 interlocks with the adjacent sleeve and is laterally retained in place thereby.

To those skilled in the art, it will become apparent that both planar member 87 and cover 90 are easily formable from plastic material by well known molding techniques. Thereby, the single half arch can be mass produced from relatively inexpensive materials by a relatively inexpensive process.

Referring to FIG. 18, there is shown an exploded view of the components forming the dual half arch 51. The first section 100 is formed of a planar member 101 defining the height, width and degree of arch of the lateral side of the dual half arch. A curved flange 102 extends upwardly from planar member 101 along one curved edge of the planar member. The height of flange 102 defines the approximate width of the dual half arch 51. The second section 105 is essentially a mirror image of section 100 and also includes a planar member 106 and a flange 107. The two sections are interlocked to one another by means of a ridge extending upwardly from flange 102, which ridge mates with a correspondingly configured slot 109 disposed in proximity to the curved edge of planar member 106. Similarly, a further ridge 110 extends outwardly from the edge of flange 102 and mates with a slot 111 disposed in proximity to the curved edge of planar member 101.

A pair of flanges 112 and 113 extend downwardly from the lower apex of section 100. These flanges mate with the upwardly extending flanges 66 (see in example FIG. 16) of the immediately adjacent sleeve 52. Thereby, the dual half arch 51 interlocks with and is laterally retained rigid to the adjacent sleeve. Although junction member 82 is shown as a unitary structure, it is to be understood that it may be formed of two interlocking elements in compliance with the teachings above with respect to the single half arch 50 and the dual half arch 51.

As discussed with respect to FIG. 16, the width of the downwardly extending flanges from the single half arch or the dual half arch, in combination with the upwardly extending flanges from the adjacent sleeve, may be modified to permit the exterior surface to abut with the adjacent section or to be spaced apart therefrom. Such considerations are controlled by the aesthetic effect desired.

As with the single half arch, the dual half arch is specifically configured to render it adaptable to molding techniques useable with plastic-like materials. Further, as sections 100 and 105 are mirror images of one another, only a single mold need be prepared to produce both sections of the dual half arch. Thereby, further manufacturing savings can be effected.

While the principles of the invention have now been made clear in an illustrative embodiment, there will be immediately obvious to those skilled in the art many modifications of structure, arrangement, proportions, elements, materials, and components, used in the practice of the invention which are particularly adapted for specific environments and operating requirements without departing from those principles.

I claim:

1. A modular facade for circumscribing roof supports and extending upwardly to a supported roof to provide an aesthetically attractive appearance to the roof support and the junction between the roof support and the roof, said facade comprising in combination:
   a. a dual element sleeve circumscribing each roof support to hide the roof support from view, said dual element sleeve being formed of a pair of identical elements attachable to one another about the roof support to form and position said dual element sleeve about the roof support;
   b. tongue and groove means forming a part of each said dual element sleeve for retaining the elements of said dual element sleeve to one another about the circumscribed roof support, said tongue and groove means being disposed in proximity to the vertical edges of each of said elements and concealed from view;
   c. flange means disposed about the upper and lower periphery of each said dual element sleeve for interlocking adjacent ones of said dual element sleeves; and
   d. a multi element junction member for providing an aesthetically pleasing transition from said dual element sleeve to the roof, said junction member defining a cavity extending therethrough for receiving and circumscribing the roof support, said junction member including depending flange means for mating with the upper edge of the adjacent one of said dual element sleeves and an upper lip extending outwardly lateral to the roof for attachment to the roof; whereby, said dual element sleeve and said junction member can circumscribe existing roof supports to alter the aesthetic value of the roof support.

2. The facade as set forth in claim 1 wherein a plurality of said dual element sleeves are retained about each roof support in alignment with one another.

3. The facade as set forth in claim 2 including interlock means attached to one end of each of said dual element sleeves for securing an adjacent one of said dual element sleeves thereto.

4. The facade as set forth in claim 1 wherein each said dual element sleeve comprises:
   a. a pair of identically shaped elements, each said element defining one half of the exterior surface of said dual element sleeve;
   b. each said element terminating laterally in two vertical edges; and
   c. said tongue and groove means being disposed in proximity to matingly corresponding ones of the vertical edges of each of said elements to interlock said elements with one another and form each said dual element sleeve.

5. The facade as set forth in claim 4 wherein each said dual element is formed of two planar sides perpendicular to one another.

6. The facade as set forth in claim 4 wherein said junction member comprises a trough.

7. The facade as set forth in claim 4 wherein said junction member defines a hollow single half arch.

8. The facade as set forth in claim 7 wherein said single half arch includes a first section, a second section
9. The facade as set forth in claim 8 wherein said first section comprises a planar member having a linear flange depending therefrom and said second section comprises a planar member having a curved flange depending therefrom, said linear flange interlocking with an edge of said planar member of said second section and said curved flange interlocking with an edge of said planar member of said first section.

10. The facade as set forth in claim 4 wherein said junction member defines a hollow dual half arch.

11. The facade as set forth in claim 10 wherein said dual half arch includes a further first section, a further second section and yet further tongue and groove means for interlocking said further first section and said further second section.

12. The facade as set forth in claim 11 wherein said further first section and said further second section are identical, each comprising a further planar member, a curved flange depending from one side of said planar member, each said curved flange of one of said further first and second sections interlocking with another edge of the other of said further first and second sections.

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