Oct. 3, 1967 R. T. MILES ET AL 3,344,566

BUILDING STRUCTURE

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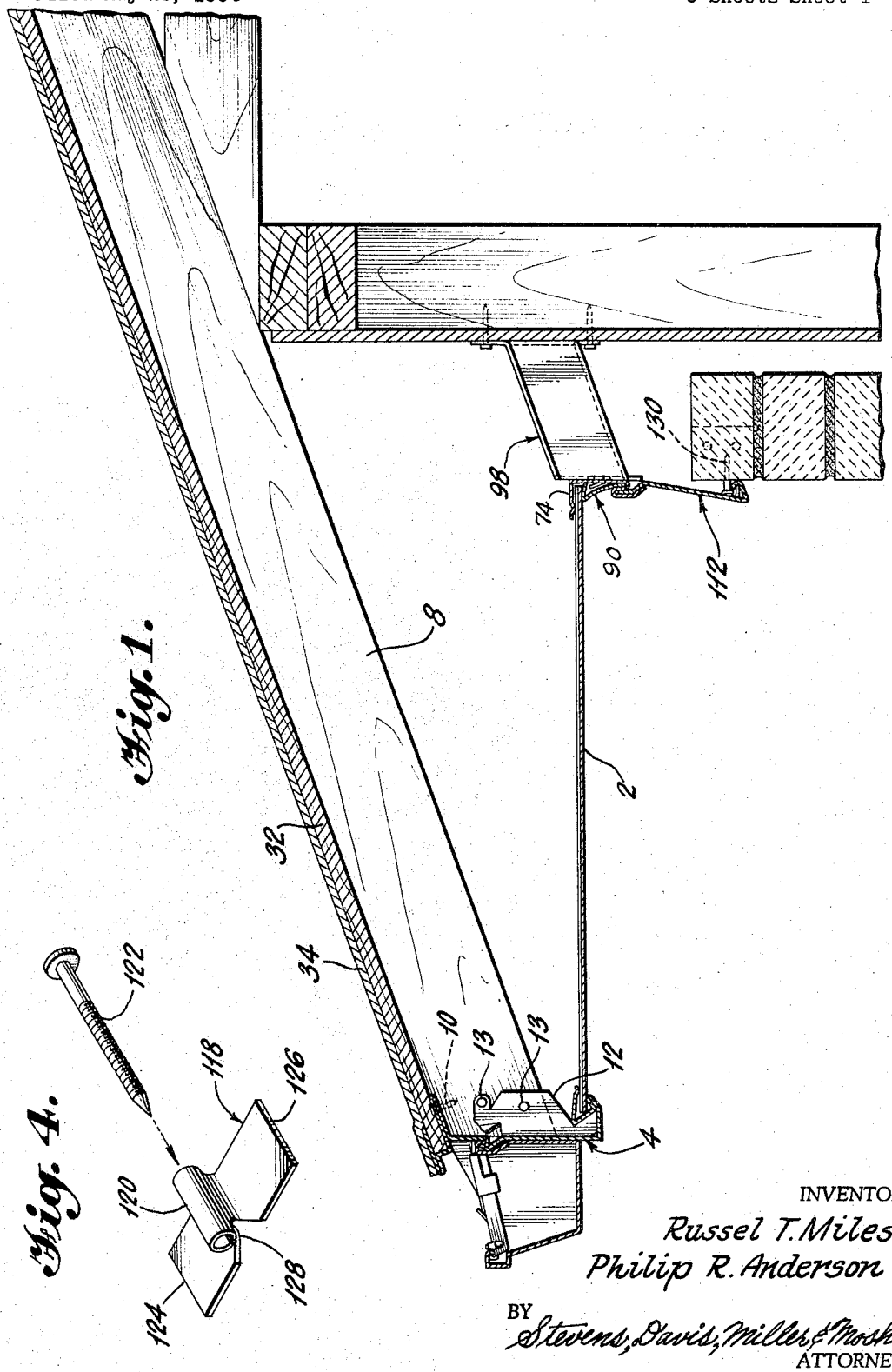


Fig. 1.

Fig. 4.

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BUILDING STRUCTURE

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Fig. 2.

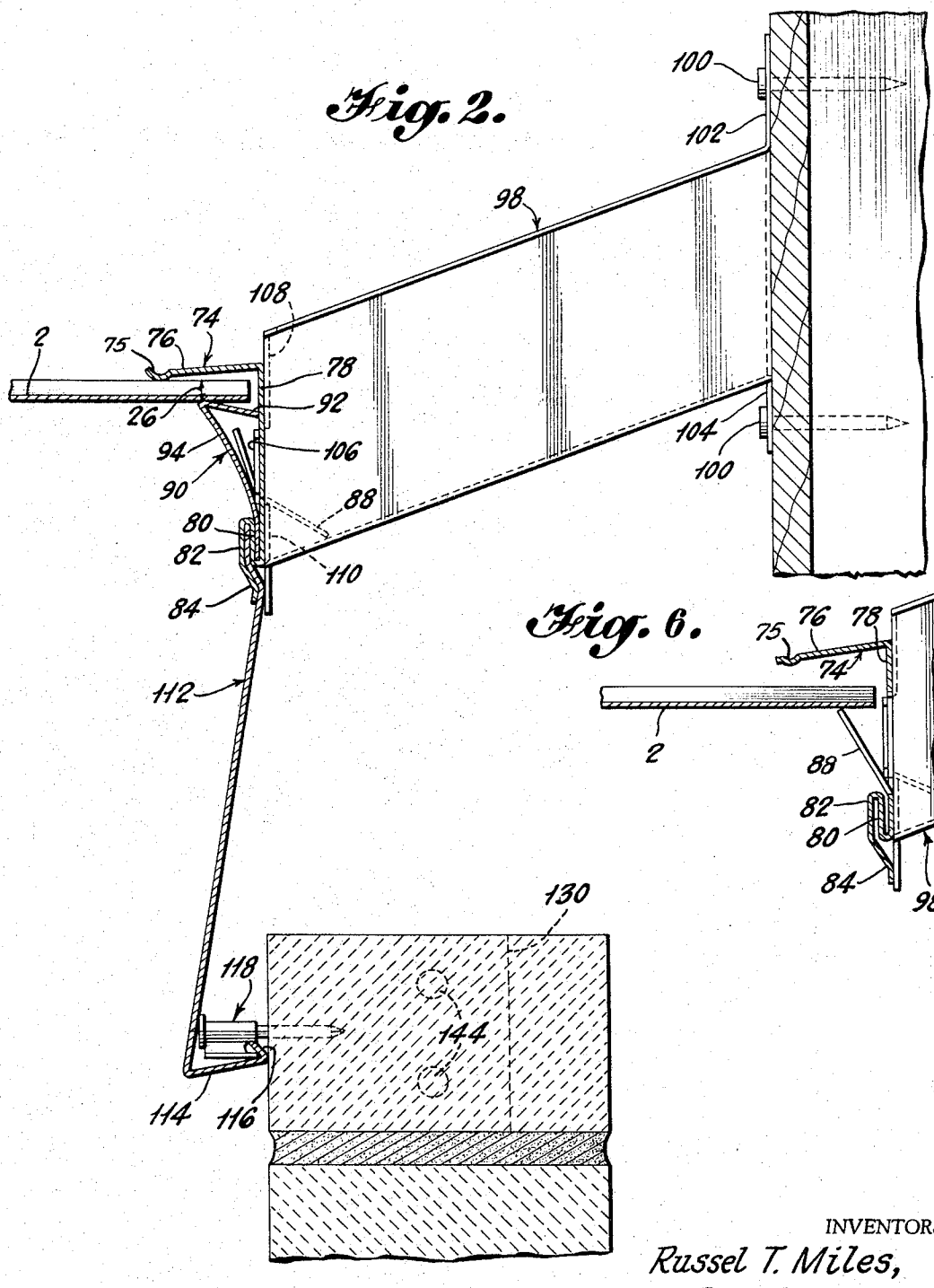


Fig. 6.

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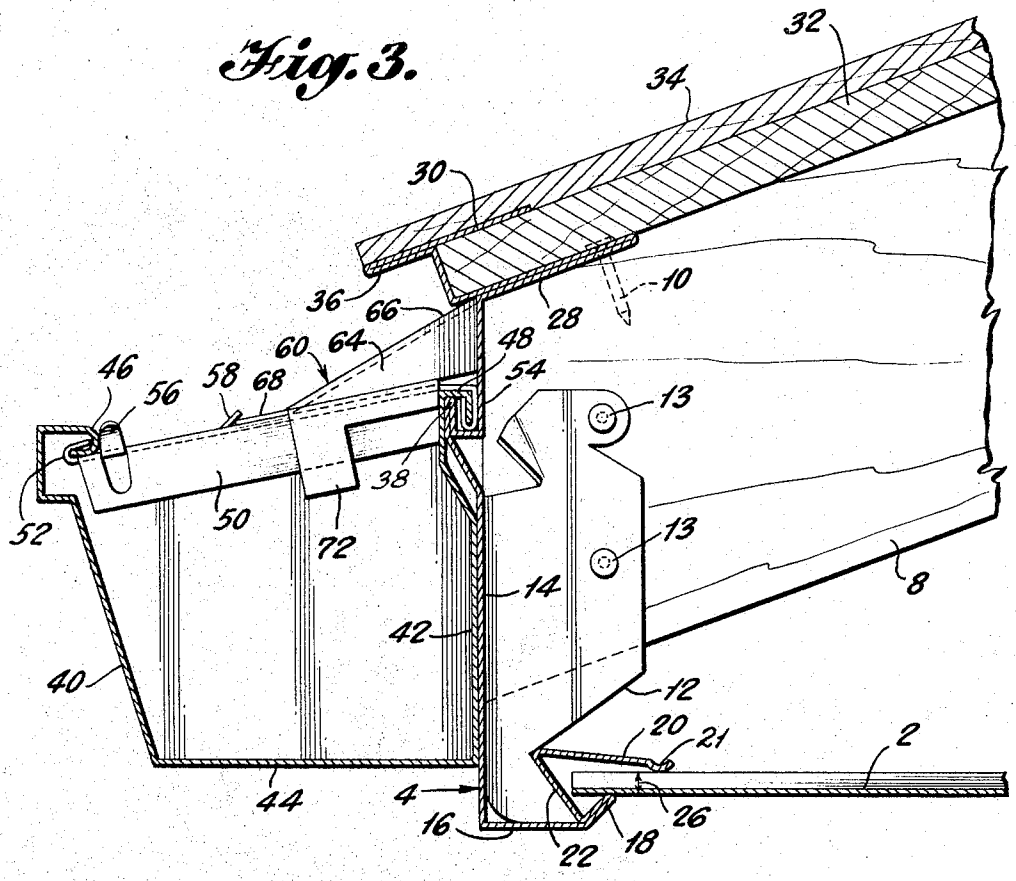
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BUILDING STRUCTURE

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Fig. 3.



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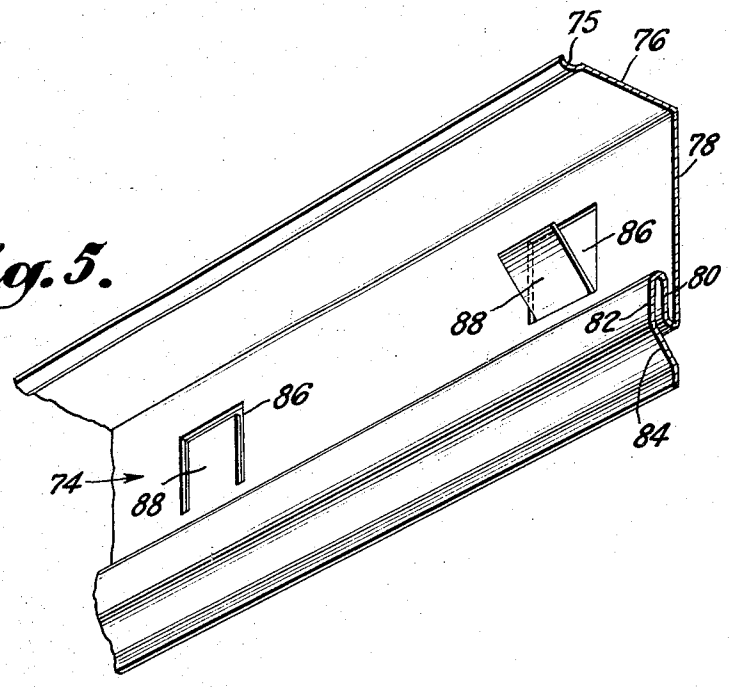
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BUILDING STRUCTURE

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Fig. 5.



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BUILDING STRUCTURE

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Fig. 7.

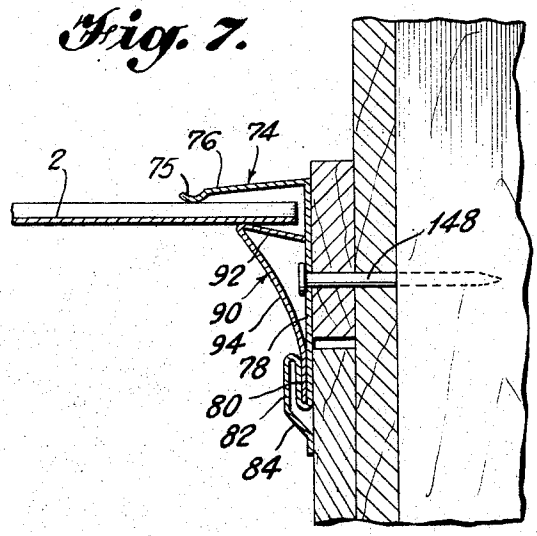
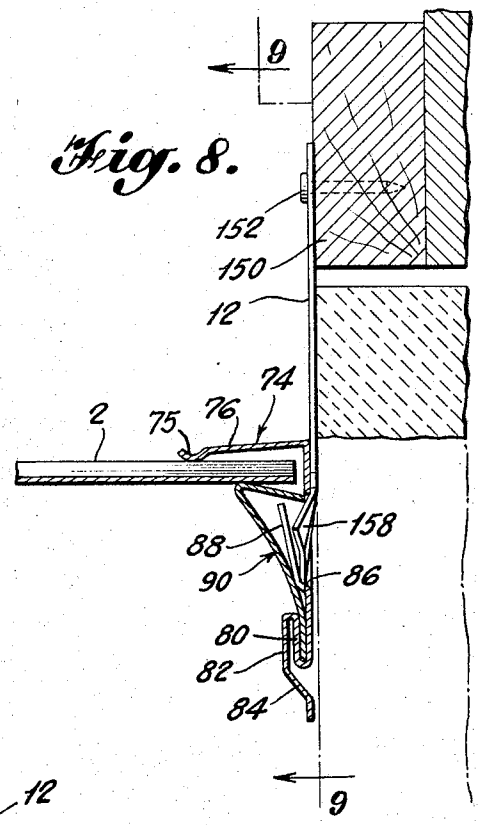


Fig. 8.



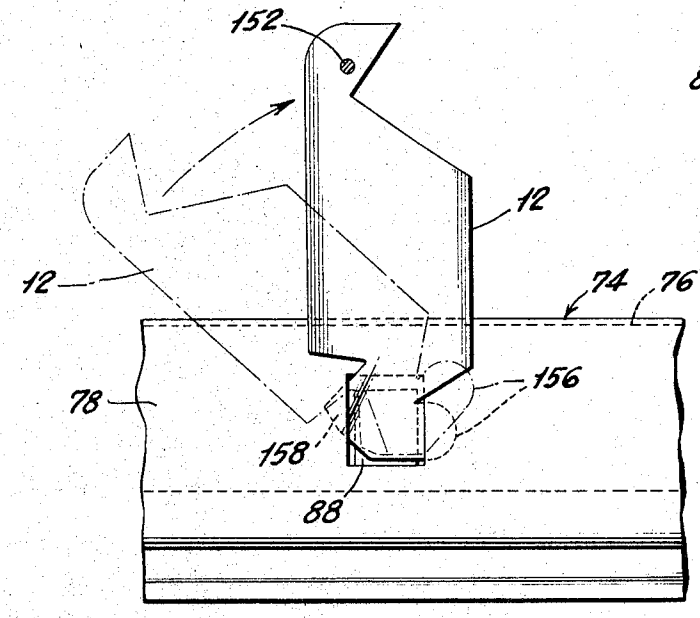


Fig. 9.

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United States Patent Office 3,344,566 Patented Oct. 3, 1967

3,344,566

BUILDING STRUCTURE

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Filed May 25, 1964, Ser. No. 370,026
6 Claims. (Cl. 52—94)

This invention relates to a structure for finishing the roof edges of a building.

The home building industry has made great strides in recent years in perfecting more efficient methods of construction. Various prefabrication and preassembly methods have greatly reduced the expense of building some of the large components that go into a house but the amount of hand labor required is still considerable. The finishing of the roof edges remains a slow and expensive operation in completing a building structure since it requires expert carpentry to cover the ends of the rafters to provide a pleasing appearance as well as to provide protection for the rafters from the elements and provide a gutter support.

It is therefore an object of this invention to provide a structure for finishing the roof edges which will eliminate the requirement for expert carpentry as the structure can be applied to roof rafters which are irregular both horizontally and vertically without the necessity of trimming and shimming.

It is a further object of this invention to provide a structure for finishing the roof edges which can be assembled in long sections while on the ground and then raised and secured in position without the necessity of puncturing or visible nailing.

A further object of this invention is to provide a structure for finishing roof edges in which the supporting structure may be secured to the building and sub-assemblies constructed on the ground and then raised and secured in position from the top down eliminating the need for scaffolding.

It is another object of the invention to provide a structure for finishing the roof edges which is light, weather resistant, has a long life, and requires a minimum of maintenance.

In many instances it is necessary to replace the roof edge finishes of existing building structures.

It is therefore a further object of this invention to provide a structure which can be applied to the repair of existing buildings as well as initial installations in new buildings.

Still another object of this invention is to provide a structure in which sub-assemblies thereof can be used to finish different sections of the roof edges.

It is an object in all forms of the invention to produce a structure which can be assembled without the use of special tools and in which the shapes of the members allow their use in different assemblies.

The invention, together with further objects and advantages thereof can be understood by reference to the following description when taken in connection with the accompanying drawings, wherein:

FIG. 1 is a sectional view through a sidewall and roof overhang of a brick veneer frame building showing the fascia, gutter, soffit, and fastening means of this invention;

FIG. 2 is an enlarged view of the brick veneer bracket and frieze of FIG. 1;

FIG. 3 is an enlarged view of the fascia, gutter, soffit, and mounting means therefor as shown in FIG. 1;

FIG. 4 is an enlarged perspective view of the frieze nail and clip insert of this invention;

FIG. 5 is an enlarged perspective view of the mould bar receiver of this invention;

FIG. 6 is a sectional view of the mould bar receiver showing the position of the soffit at the beginning of assembly;

FIG. 7 is a sectional view of a mould bar receiver applied to a building of a different construction with the mould bar now in place;

FIG. 8 is a sectional view of the mould bar receiver showing it secured to the wall of still a different construction by means of the dual purpose fascia hanger clip; and

FIG. 9 is a sectional view along line 9—9 of FIG. 8.

In FIG. 1 is shown a soffit member **2** supported at one edge by fascia plate generally designated by numeral **4** and at the opposite edge by a mould bar receiver **74** and mould bar **90**. The fascia plate is secured to a rafter **8** by a nail **10** driven through the plate and into the rafter. It should be noted that the nails **10** are not exterior nails and are covered by the roof sheathing **32**. Although attachment to a single rafter is shown it is to be understood that the fascia plate is long and extends over many rafters and can be nailed to each one. Fascia hanger clips **12** are interfitted with the fascia plate and are secured to the sides of the rafters by nails **13**. Although the rafters are conventionally initially sized in an effort to have their outer ends lie in a common plane, it usually happens that a number of the rafter ends will be of different lengths. According to conventional practice, care must be taken to make the rafter ends of the same length, usually by cutting or shimming the rafter ends after they are in place. The fascia plate **4** may be placed against the longest rafter ends, and the fascia hanger clips **12** associated with the short rafters may be used to bridge the slight distances between the ends of the shorter rafters and the fascia plate. Thus, the present invention eliminates the necessity for cutting or shimming rafter ends to bring them into the same plane.

The details of the fascia plate hanger clip **12**, and gutter are shown in an enlarged view in FIGURE 3 and will be described hereinafter. The fascia plate comprises a planar body portion **14** having a lip portion **16** bent at right angles to the body and extending the length of said body. The lip is bent to provide spaced gripping legs **18**, **20** coextensive therewith and connected by a slanted portion **22**. An astragal depression **21** extends the length of leg **20**. The legs are biased towards each other to a position in which the distance between the legs is less than the thickness **26** of the soffit plate. When the plate is inserted between the legs as shown the inherent resiliency of the metal produces a tight gripping of the soffit by the legs. At the other edge the body portion **14** is bent as shown to provide spaced flanges **28** and **30** along the entire length thereof to serve as a support and locator for the roof sheathing **32**. The flange **30** is shorter than flange **28** to allow for driving nails **10**. It is pointed out at this time that all the structural elements disclosed in this application are formed of thin gauge metal and nails can be driven through the elements without requiring the use of preformed holes. A suitable material for use in this manner is aluminum. The length of flange **30** is sufficient to act as a barrier to any water which may be driven under the roofing **34**. A leg **36** makes an acute angle with the body portion to thereby operate as a drip edge. A leg **38** is bent out of the material and is spaced from the body portion **14** a sufficient distance to provide for attachment of the gutter.

The gutter is in the form of a U having legs **40**, **42** connected by a bottom **44**. The leg **40** is formed with a hook portion **46** and the leg **42** is provided with a hook portion **48**. A brace **50** is formed with a hook por-

tion 52 for engagement with hook 46 and with a hook portion 54 which is hooked around hook 48. The body portion of the brace is of U cross-section with tabs 56 cut out of the legs and a tab 58 comprising an abutment is cut out of the base. A jack or wedge member 60 is formed in the shape of a hollow wedge having sides 62, 64, and an end 66 which has a projection 68. The wedge is integral with a base 70 which is U-shaped with the legs of the U spaced to closely straddle the brace and with the legs elongated as at 72 to be wrapped around the legs of the brace.

To attach the gutter to fascia plate 4 the desired number of braces 50 are attached to the gutter at spaced distances by manually bending hooks 54 around the end of hook 48 and then interfitting hooks 52 with 46 and pressing out tabs 56. The gutter and attached braces are hooked over leg 38 and the selected number of wedge members 60 are pressed between tab 58 and body 14 and legs 72 are manually bent around the ends of the legs of the brace. The length of projection 68 is such that the wedge members can be positioned as shown in FIG. 3 by only slightly distorting the gutter in a direction to spread the legs 40, 42. The gutter is maintained in the stressed condition by the wedges and is thus firmly anchored in a hanger channel formed in fascia plate 4 by leg 38.

The mould bar receiver 74 and mould bar 90 for mounting the soffit adjacent the building wall is shown in enlarged views in FIGS. 2, 7 and 8. The mould bar receiver 74 comprises an L-shaped body member having legs 76 and 78 with the leg 76 having an astragal depression 75 along its entire length. The leg 78 is reversely bent to provide spaced wall portions 80 and 82 and a bent portion 84 to terminate the leg 78 in a plane with the rest of the leg. The spaced wall portions define oppositely opening grooves for purposes to be explained below. The leg 78 is formed with a plurality of U-shaped openings 86 defining tabs 88 which can be bent out of the plane of the leg as shown at the right in FIG. 5. The mould bar 90 is an L-shaped wedge member having legs 92 and 94. In use, the soffit 2 may be loosely held in place by placing it over tabs 88 which are bent out of the plane of legs 78. Leg 94 of mould bar 90 is inserted in the groove between leg 78 and wall portion 80 and is pressed toward leg 78. The soffit is retained between the leg 76 of the mould bar receiver 74 and the top edge of mould bar 90. The resiliency and distortion of the metal results in a tight friction fit.

In FIG. 2 is shown the mould bar receiver 74 and mould bar 90 secured in position on a brick veneer type building structure. A bracket 98 which is of a Z cross-section as shown in FIG. 2 is secured to a wooden part of the structure by nails 100 driven through ears 102, 104 integral with one end of the body of the bracket. The opposite end of the bracket is provided with tabs 106, 108, 110. The tab 106 is inserted through opening 86 in leg 87 and is manually bent to lay on one face of leg 78 while brackets 108 and 110 having been previously bent lay on the opposite face of leg 78. Tab 88 is then bent so that one edge thereof bears against a face of the leg of the Z as shown in FIGURE 4 to prevent lateral movement of the bracket. A frieze plate 112 having an offset edge to fit into the groove provided by walls 80, 82 and bent to follow bent portion 84 of the mould bar receiver 74 is forced into said groove while the opposite edge of the frieze is secured to the brick wall. In order to secure the frieze plate to a brick wall, one edge of the plate is bent to provide legs 114, 116 to thereby define a groove with the body of the plate into which is slid a plurality of fasteners 118. Referring to FIGURE 4 each fastener comprises a cylindrical portion 120 for reception of a grooved nail, screw, or similar element 122. Integral with the portion 120 are legs 124, 126 which are cut away as at 128 for reception of leg 116.

In FIG. 7 is shown a structure in which the mould bar receiver is fastened directly to a wooden structure. In this case the mould bar receiver is nailed in position by driving nails 148 through leg 78. The soffit member 2 is then forced against leg 76 by mould bar 90 which retains the soffit as heretofore described and hides the nails.

In FIG. 8 is shown a structure in which the mould bar is retained against a masonry wall. In this case the fascia hanger clips 12 are inserted in the openings formed by bending out tabs 88 in the manner shown in FIG. 9 and by pivoting the clip from the dot-dash line position in the direction of the arrow to the full line position. The clips can then be nailed to a wood sill 150 for example, by driving nails 152 directly through the clip.

Fascia hanger clip 12 comprises a sheet metal body having a cut-out defining a slanted edge making the same angle with the vertical as portion 22 of the fascia plate. The other end of the body is formed with an ear 156 and a triangular tab portion 158 bent out of the plane of the body. When used to support the fascia, it is inserted in the groove formed by portions 14, 16, and 22 as shown in FIGS. 1 and 3 and slid therealong to a rafter and nailed thereto. When used to support mould bar receiver 74, the ear 156 is hooked behind leg 78 through opening 86 and rotated in the direction of the arrow. This causes tab portion 158 to wedge behind leg 78 and firmly hold the clip as shown in FIGURE 9.

Before sheathing is applied to the building structure, the fascia 4, gutter, soffit 2, mould bar receiver 74, mould bar 90, frieze bar 112, and bracket 98, or hanger 12, can be preassembled as a completed unit on the ground or at any other convenient location and transported as a unit to the roof whereupon it can be installed by working from the roof down rather than from scaffolding up, thus eliminating the need for the latter. It is then only a simple matter for any unskilled laborer to drive the proper number of nails to complete the mounting. The completed assembly may be of any convenient length, for example, in the neighborhood of twenty to forty feet. Where necessary or desirable, the structure can be mounted on a building a single element at a time or in the form of one or more preassembled sub-units, such as a sub-unit consisting of fascia plate 4 with the gutter attached, or a sub-unit consisting of mould bar receiver 74 and frieze plate 112 with mounting bracket 98 attached. The soffit plate 2 can then be inserted between legs 18, 20 and temporarily mounted on the mould bar receiver by bending outwardly a few tabs 88 as shown in FIG. 5 and supporting the soffit member thereon pending the final positioning by forcing into position the mould bar 90. As a final step the frieze plate with its assembled fasteners is forced into the groove between walls 80, 82 and elements 122 are pushed into the gripping members 130.

Specific reference is hereby made to our copending applications Ser. No. 95,901 and Ser. No. 231,499 which disclose some of the basic structure entailed herein, this patent application constituting improvement and modifications in the previously disclosed basic structures.

Although the present invention has been shown and described in terms of preferred embodiments, nevertheless various changes and modifications such as are obvious to one skilled in the art are deemed to be within the purview of the invention.

What is claimed is:

1. A soffit mounting and frieze assembly comprising an L-shaped body member, means integral with one leg of the body defining a pair of oppositely opening grooves, an L-shaped wedge member mounted with one leg in one of the grooves and the other leg adjacent the other leg of the body member and a frieze member fitted in the other of said grooves.

2. A soffit mounting comprising an L-shaped body member, a wedge member, means mounting the wedge member on one leg of the L with one side of the wedge adjacent the other leg, said one leg of said body member

being generally vertical and said other leg being generally horizontal in the normal operating position, a plurality of openings in said one leg defining a plurality of bendable tabs; a bracket, a plurality of bendable tabs on the bracket, one of said tabs extending through one of said openings and bent in one direction to contact and bear on one face of said one leg, others of said tabs being bent in the opposite direction to contact and bear on the opposite face of said one leg; the tab defined by said one opening being bent to contact a side of the bracket.

3. A soffit mounting comprising an L-shaped body member, a wedge member having a pair of legs, and means mounting the wedge member on one leg of the L with one side of the wedge adjacent the other leg, a plurality of openings formed in said one leg, and a sheet metal hanger clip secured in some of said openings.

4. Apparatus for finishing the edge of a roof having rafter ends overhanging a building wall comprising a soffit, a generally vertical fascia, means to secure said soffit to said fascia, and a soffit mounting engaging one edge of said soffit, said soffit mounting comprising a substantially L-shaped body member, said body member having a generally horizontal leg and a generally vertical leg, said generally vertical leg being provided with means to define an upwardly opening groove beneath said generally horizontal leg, and a wedge member having a downwardly directed leg with its lower edge mounted in said groove and having another leg adjacent and spaced from the generally horizontal leg of the body member and defining therewith a space for the reception of the edge of said soffit, said another leg of said wedge member being positioned below and supporting thereon said edge of said soffit.

5. Apparatus for finishing the edge of a roof having rafter ends overhanging a building wall comprising a soffit, a fascia plate, means forming one edge of said plate gripping an edge of the soffit, means for securing the plate to the rafter ends, and mounting means frictionally gripping an opposite edge of the soffit for attachment to the wall, said mounting means including a generally L-shaped body member, a wedge member, and means mounting the wedge member on one leg of the L with one side of the wedge adjacent the other leg, said one side of the wedge engaging the lower surface of said opposite edge of said soffit.

6. Apparatus for finishing the edge of a roof having rafter ends overhanging a building wall comprising a soffit, a fascia plate, means forming one edge of said plate gripping an edge of the soffit, means forming an opposite edge of the plate for securing the plate to the rafters, and mounting means frictionally gripping an opposite edge of the soffit for attachment to the wall, said mounting means including a substantially L-shaped body member, a wedge member, means mounting the wedge member on one leg of the L with one side of the wedge adjacent the other leg, said one leg of said L-shaped body member being generally vertical and said other leg being generally horizontal, a plurality of openings in said one leg defining a plurality of bendable tabs; a bracket, a plurality of bendable tabs on the bracket, one of said tabs extending through one of said openings and bent in one direction to contact and bear on one face of said one leg, others of said tabs being bent in the opposite direction to contact and bear on the opposite face of said one leg; the tab defined by said one opening being bent to contact a side of the bracket.

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