

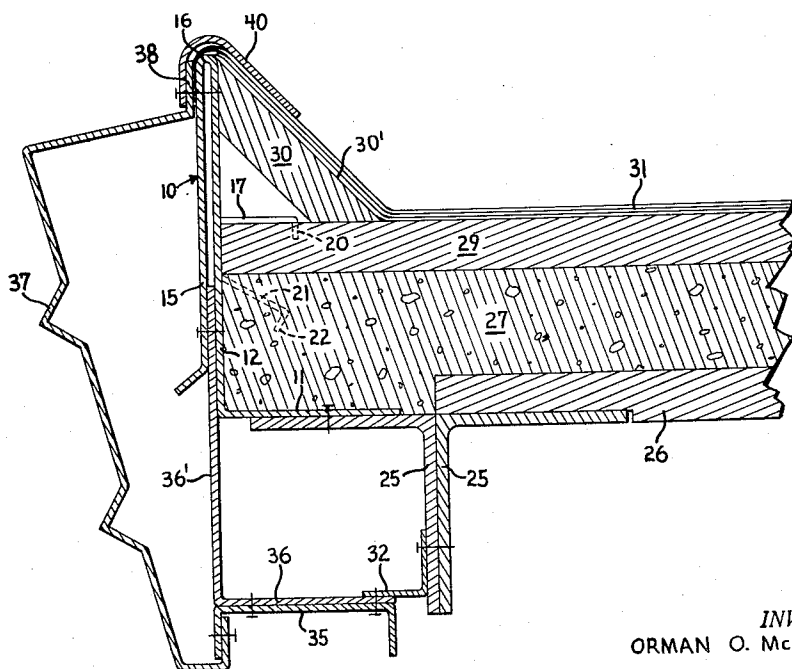
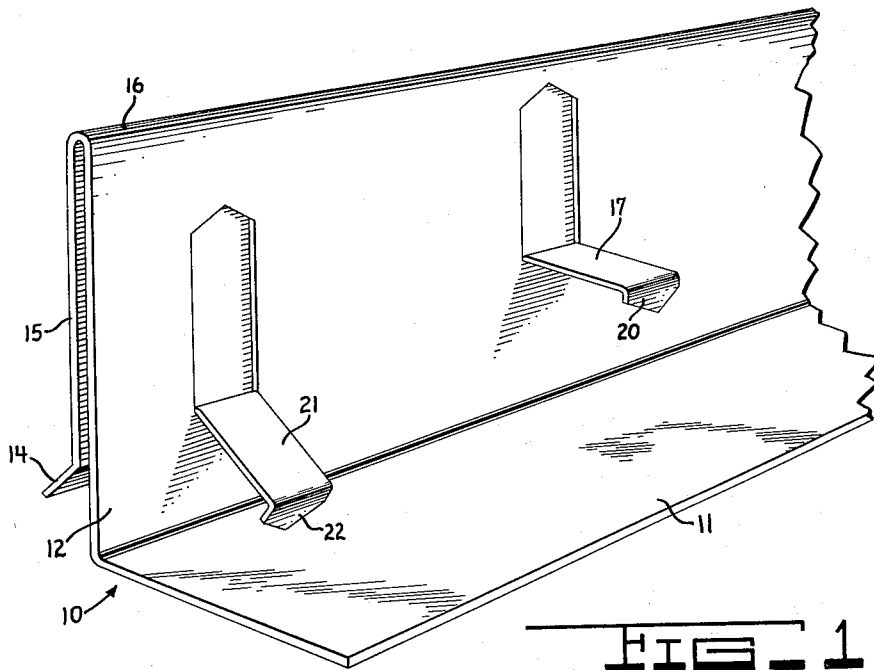
March 13, 1962

O. O. McKINLEY
ROOFING STRUCTURE

3,024,573

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2 Sheets-Sheet 1



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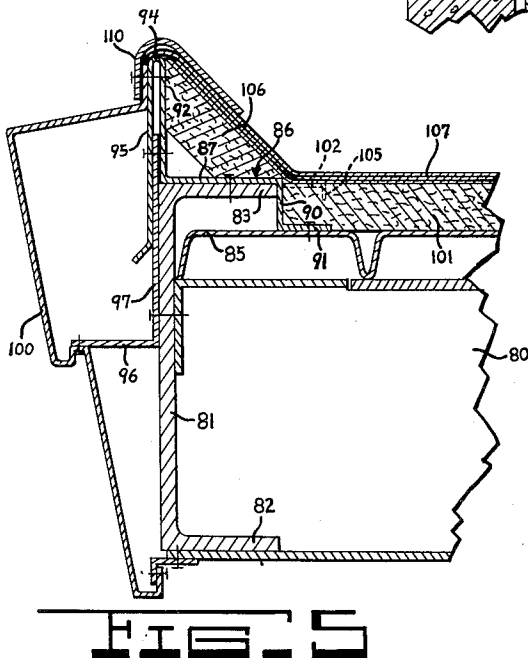
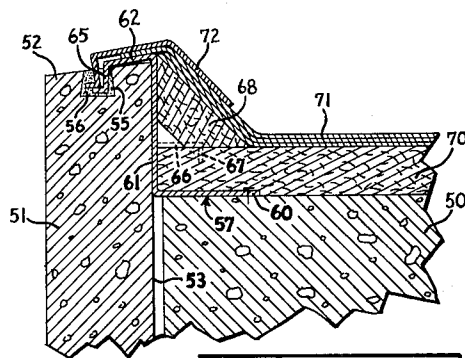
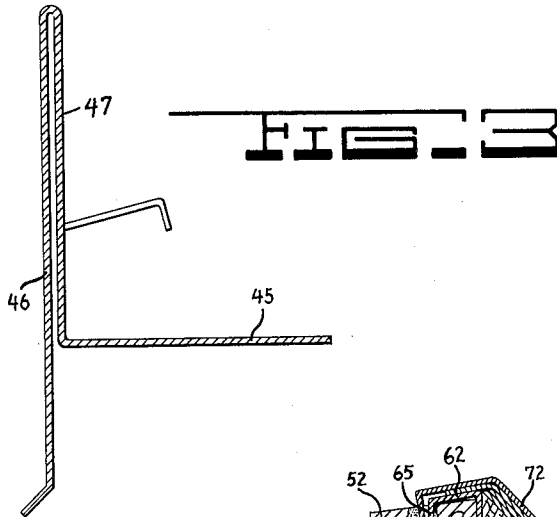
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2 Sheets-Sheet 2



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ROOFING STRUCTURE

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15 Claims. (Cl. 50-66)

This invention relates to an improved roofing assembly and to a means for securing roof insulation to a roof which forms a part of the assembly.

It is an object of the present invention to provide a novel means for holding roof insulation in place upon a roof deck.

It is a further object of the present invention to provide a means for attaching a decorative fascia to a roof assembly for protecting and covering the various edge regions of the roof assembly.

Another object of the present invention is to provide an improved roofing assembly having a pleasing decorative appearance.

Still another object of the present invention is to provide an improved roofing assembly in which the raw edges of heat insulating material and of sheet material used in the assembly are completely protected from the weather.

Still further objects of the invention will appear as the description proceeds.

To the accomplishment of the above and related objects, my invention may be embodied in the forms illustrated in the accompanying drawings, attention being called to the fact, however, that the drawings are illustrative only, and that change may be made in the specific constructions illustrated and described, so long as the scope of the appended claims is not violated.

FIG. 1 is a perspective view of a device constructed in accordance with my invention including means for engaging and holding roof insulation in place upon a roof deck and including means for supporting a decorative fascia;

FIG. 2 is a sectional view of a roof assembly including the device of FIG. 1 and showing it in its assembled operative position;

FIG. 3 is an end view of an alternative device somewhat similar to the device of FIG. 1 and forming a second embodiment of the invention;

FIG. 4 is a section of a somewhat different roof assembly incorporating a third alternative device similar to a device of FIG. 1; and

FIG. 5 is a section of still another roof assembly including a fourth device similar to the device of FIG. 1.

Referring now to the drawings, and more particularly to FIGS. 1 and 2, a plate 10 which is shown in perspective in FIG. 1 will be described in the position in which it is located when assembled in the roof assembly shown in FIG. 2. The plate includes a horizontal rectangular portion 11 and a first vertical portion 12 which extends upwardly from one edge of the horizontal portion 11. The vertical portion 12 of plate 10 is bent back upon itself away from the horizontal portion 11 so as to form a second vertical portion 15 which is parallel to and spaced from the vertical portion 12 and is connected to the vertical portion 12 by means of a curved portion 16.

To aid in the assembling of the roof assembly, the plate 10 is provided with a terminal lip portion 14 extending diagonally downwardly from the second vertical portion 15 and providing a guide for the assembly with the plate 10 of a certain other part of the apparatus later to be described. An arm 17 projects from the first vertical portion 12 of the plate and has a pointed projection 20 integral therewith and extending perpendicularly of the arm and downwardly from the distal end of the arm. A second arm 21 also projects from the first vertical portion of the plate 10 and has a pointed projection 22

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which extends perpendicularly of the arm 21 and downwardly from the distal end of the arm 21. While in FIGS. 1 and 2 only a single one of each of arms 17 and 21 is shown, the arms 17 and 21 are representative of a plurality of arms similar to the arms 17 and 21 spaced at suitable intervals along the length of the plate 10. The arms 17 and 21 are suitably spaced, respectively, from the horizontal portion 11 for performing functions to be described below.

The plate 10 is fixed to and supported by one of a pair of angles 25-25 which form a roof support in and for the roof assembly herein described. The angles 25 also support a section of acoustical formboard 26 which, along with the plate 10, provides a form for a poured roofing deck 27 such as, for example, a poured gypsum deck. Prior to the pouring of the deck, each of the arms 21 is bent at its proximal end to such an angle that it projects into the final poured gypsum deck and provides a means anchoring the roofing deck and the plate 10 to one another.

After the poured deck has hardened, roof insulation 29 in the form of slabs or other large sections is placed upon the deck 27. Each arm 17, which is bendable at its proximal end, is then bent downwardly by striking with a hammer or by other suitable means until the pointed projection 20 is driven into the roof insulation 29 into the position shown in FIG. 2 and until the arm 17 securely holds the roof insulation in place upon the poured roofing deck 27.

After the roof insulation 29 has been so secured in place, a cant strip 30 is placed in the position shown in FIG. 2. The strip 30 is preferably cut from the same material used at 29, and is bevelled at its opposite ends to bear against the exposed surface of the plate portion 15 and against the upper surface of the insulation layer 29. The strip 30 is preferably so proportioned and designed that its exposed surface 30' is inclined at about 135° to the upper surface of the insulation layer 29 and to the outer surface of the plate portion 15, and that its upper edge is substantially flush with the plate curved portion 16.

A suitable number of layers of protective roofing material 31, such as, for example, tar paper, are then laid upon the roof insulation 29 and over the cant strip 30 so as to end adjacent the upper portion of the plate 10, with at least one layer of such material extending over the portion 16 and down along the portion 12.

An angle 32 is fixed to one of the roof support angles 25 and provides support for an angle plate 36 and a channel 35 which are fixed to the angle 32. The angle plate 36 has an upwardly extending vertical portion 36' which is inserted and fixed between the parallel vertical portions 12 and 15 of the plate 10, the assembly of the angle plate 36 with the plate 10 being facilitated by the above-mentioned diagonal portion 14 of plate 10. A decorative fascia 37 is fixed at its lower end to the channel 35 and is fixed at its upper end to the plate 10 and against the vertical portion 15 of the plate 10.

The decorative fascia 37, which may be shaped in any decorative manner and which may be, for example, aluminum with a baked enamel finish, provides a protective cover for the various sidewardly facing portions of the roofing assembly such as the plate 10, the angle plate 36 and a portion of the channel 35, and also provides a pleasing decorative appearance to the completed roofing assembly. Mastic cement is placed upon the upper portions of the protective roofing material 31 covering the cant strip 30 and also upon the upward, outwardly facing portion 38 of the decorative fascia 37 so as to provide a means for fixing a cap 40 in place in the position shown in FIG. 2. The cap 40, which also may be composed of aluminum finished with baked enamel, provides a pro-

tective cover preventing the weather from injuring the internal portions of the roofing assembly.

Referring now to FIG. 3, a second embodiment of the invention is shown which is similar in many respects to the embodiment shown in FIGS. 1 and 2. The device of FIG. 3 does not have an arm such as the arm 21 and is intended to be used in an application where such an arm is not needed, that is, where the horizontal portion 45 rests upon the upper surface of a roofing deck and roof insulation rests directly in contact with the horizontal portion 45. Also, parallel vertical portion 46 is somewhat longer than parallel vertical portion 47 because of the fact that the parallel vertical portion 47 is not used as part of the form for a poured roofing deck. In other respects the embodiment of FIG. 3 functions as does the embodiment of FIGS. 1 and 2.

FIG. 4 depicts a third alternative embodiment of the invention. A wall 51 composed of concrete or the like is fixed with relation to and supports roofing deck 50 which may or may not be of the poured variety. The wall 51 extends upwardly beyond the upper surface of the deck 50 and has an upper surface 52 which slopes downwardly at a given angle away from the deck facing portion 53 of the wall 51. The wall 51 has a slot 55 therein which extends centrally along the length of the upper surface 52 of the wall and which is filled with caulking material capped with rubber base mastic for a purpose which will later be set forth.

A plate, indicated generally by the numeral 57, includes a lower, horizontal rectangular portion 60 which is fixed to and rests upon the roofing deck 50; a first vertical portion 61 which extends upwardly from an edge of said horizontal portion and in contact with the face 53 of the wall 51 to the upper surface 52 of the wall; a sloping portion 62 which forms the same angle with the horizontal portion 60 as the upper surface 52 forms with the deck facing portion 53 of the wall and which contacts the upper surface of said wall and extends from the first vertical portion to the slot in the wall; and a second vertical portion 63 having an angular terminal end which projects downwardly from an edge of the sloping portion into the caulking material 56 in the slot 55 in the upper surface of the wall. An arm 66 projects from the vertical portion 61 of the plate and has a pointed projection 67 which extends perpendicularly downwardly from the distal end of the arm. A plurality of such arms 66 will be provided, in analogy to the arms 17 as described above.

A layer of roof insulation 70 is placed upon the roofing deck 50 and is fixed in place by forcing the arm 66 causing it to bend at its proximal end and causing the pointed projection 67 to be driven into the layer of roof insulation 70. A pre-shaped section 68 of roof insulation is placed in the position shown in FIG. 4 to act as a cant strip, the section being so shaped that it provides a surface which is flush with the upper end of the vertical portion 61 of the plate 57 and which joins the upwardly facing surface of the roof insulation 70 at an obtuse angle. Layers of protective roofing material 71 are then laid over the roof insulation 70 and the pre-shaped section of insulation 68 in such a manner that the edge of the material 71 is just adjacent vertical portion 61 of the plate 57. One layer of protective material 71 may be continued partially or completely over the sloping portion 62 of the plate.

Cement is then placed on the portions of protective material just above the plate 57 to provide a means for fixing a cap 72 to the roofing assembly in the position shown in FIG. 4. The cap 72 extends into the caulking material 56 in the slot 55 and, along with the caulking material 56, provides a protective seal preventing the weather from injuring the internal portions of the roofing assembly.

Still another alternative embodiment of the invention is shown in FIG. 5. A plurality of roof beams sometimes

known as "junior" beams are represented by the beam marked 80. Each of the plurality of beams is parallel to the others and is fixed at each end to a channel 81, one of which is shown in FIG. 5 and which extends perpendicularly of the beams. The channel 81 is arranged on its side and has a pair of legs 82 and 83, one of which 83 is spaced above and over the beam 80. Corrugated metal decking 85 is placed upon the beams in such a manner that its ridges and hollows extend perpendicularly of the length of the beams.

A plate, indicated generally by the numeral 86, includes a first horizontal portion 87 which is fixed to and completely covers the upwardly facing portion of the leg 83 of the channel 81. At one end the horizontal portion 87 joins a downwardly projecting first vertical portion 90 which in turn joins a second horizontal portion 91 which projects away from the first horizontal portion 87. The second horizontal portion 91 is fixed to the corrugated decking 85, a portion of which extends under the leg 83 of the channel 81. The plate 86 further includes a second vertical portion 92 extending upwardly from said first horizontal portion in alignment with the base of the channel 81. The plate is bent back upon itself away from the first horizontal portion 87 to form a third vertical portion 95 spaced from and parallel to the second vertical portion and connected to the second vertical portion by a curved portion 94 of the plate.

An angle plate 96 has an upwardly extending portion 97 which is fixed to the base of the channel 81 and which is inserted and fixed between the parallel vertical portions 92 and 95. A decorative fascia 100 is supported at its lower end by the channel 81, is fixed at a central portion thereof to the angle plate 96, and is fixed at its upper end to the plate 86 and against the third vertical portion 95 of the plate 86. The decorative fascia 100 provides a cover for the plates 86 and 96 and for the base of the channel 81.

Roof insulation 101 is held in place over the corrugated decking 85 by means of an arm 192 which projects from the junction of the portions 87 and 90 of the plate 86 and has a downwardly extending perpendicular, pointed projection 105. It should be noted that the horizontal portion 91 and the vertical portion 90 of the plate 86 provide a firm corner and abutment for positioning the roof insulation on the corrugated decking 85. Of course, a plurality of arms 102 will be spaced along the length of the plate 86.

A pre-shaped section of roof insulation 106 provides a surface which is flush with the upper end or curved portion 94 of the plate 86 and meets the upper surface of the roof insulation 101 at an obtuse angle thus providing a cant strip having a reasonably smooth surface for the application of a suitable number of layers of protective roofing material 107. As in at least one above-described embodiment, the protective roofing material ends adjacent the upper curved portion 94 of the plate 86 except that at least one layer of such material will be continued over said curved portion and part way down the outer surface of the plate portion 95. A protective cap 110 is fixed to the upper end of the decorative fascia 100 and the portions of protective roofing material there adjacent by means of a suitable cement.

I claim as my invention:

1. A roofing assembly comprising a roof support, a plate having a horizontal portion fixed to said roof support, said plate having a first vertical portion extending upwardly from one edge of said horizontal portion, said first vertical portion being bent back upon itself away from said horizontal portion to form a second vertical portion spaced from and parallel to said first vertical portion with a curved portion of plate directly connecting the upper edges of the two vertical portions, a poured roofing deck, a layer of roof insulation on said deck, the horizontal portion and the first vertical portion of said

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plate providing a portion of the form for said poured roofing deck, an arm projecting from the first vertical portion at a level above said horizontal plate portion and over said roofing deck, said arm being spaced above the upper surface of said roofing deck and being bendable at its proximal end, and a pointed projection integral with said arm and extending perpendicularly of said arm and downwardly from the distal end of said arm engaging and holding said roof insulation in place.

2. A roofing assembly comprising a roof support, a plate having a horizontal portion fixed to said roof support, said plate having a first vertical portion extending upwardly from one edge of said horizontal portion, said plate being bent back upon itself away said horizontal portion to form a second vertical portion spaced from and parallel to said first vertical portion with a curved portion of plate directly connecting the upper edges of the two vertical portions, a poured roofing deck, a layer of roof insulation on said deck, the horizontal portion and the first vertical portion of said plate providing a portion of the form for said poured roofing deck, an arm projecting from the first vertical portion over said roofing deck, said arm being spaced above the upper surface of said roofing deck and being bendable at its proximal end, a pointed projection integral with said arm and extending perpendicularly of said arm and downwardly from the distal end of said arm for engaging and holding said roof insulation in place, and a second arm projecting from the first vertical portion at a level farther below said curved portion than is said first-named arm and into said poured roofing deck for anchoring said roofing deck and said plate to one another.

3. A roofing assembly comprising a roof support, a plate having a horizontal portion fixed to said roof support, said plate having a first vertical portion extending upwardly from one edge of said horizontal portion, said plate being bent back upon itself away from said horizontal portion to form a second vertical portion spaced from and parallel to said first vertical portion with a curved portion of plate directly connecting the upper edges of the two vertical portions, a poured roofing deck, a layer of roof insulation on said deck, the horizontal portion and the first vertical portion of said plate providing a portion of the form for said poured roofing deck, an arm projecting from the first vertical portion over said roofing deck, said arm being spaced above the upper surface of said roofing deck and being bendable at its proximal end, a pointed projection integral with said arm and extending perpendicularly of said arm and downwardly from the distal end of said arm for engaging and holding said roof insulation in place, a second plate having an upwardly extending vertical portion inserted and fixed between the parallel vertical portions of said first-mentioned plate, the parallel portions of said first-mentioned plate being so spaced apart that a close fit is provided for the upwardly extending vertical portion of said second plate, and a decorative fascia covering the portions of said first-mentioned plate and said second plate that face away from said poured roofing deck, said decorative fascia being supported at its lower end by said second plate and being fixed at its upper end against the second vertical portion of said first-mentioned plate.

4. The roofing assembly of claim 3 additionally comprising a layer of protective roofing material covering said layer of roof insulation and extending to a position adjacent said decorative fascia, and a protective cap cemented to and covering the upper portion of said decorative fascia and the protective roofing material adjacent thereto.

5. A roofing assembly comprising a roofing deck, a wall supporting said deck and extending upwardly beyond the upper surface of said deck, said wall having an upper surface sloping downwardly at a given angle away from the deck facing portion of said wall, said wall having a

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slot therein extending centrally along the upper surface thereof, a plate having a horizontal portion resting upon said roofing deck, having a vertical portion extending upwardly from an edge of said horizontal portion and in contact with said wall, to the upper surface of said wall, having a sloping portion sloping away from the vertical portion at the given angle in contact with the upper surface of said wall and extending to the slot in the upper surface, and having a second vertical portion projecting downwardly from an edge of said sloping portion into the slot in the upper surface of said wall, an arm projecting from the first-mentioned vertical portion of said plate over said roofing deck, said arm being bendable at its proximal end, and a pointed projection integral with said arm and extending downwardly and perpendicularly of said arm from the distal end thereof and engaging and holding roof insulation in place above and against the upper surface of said deck.

6. A roofing assembly comprising a roofing deck, a layer of roof insulation covering said roofing deck, a wall supporting said deck and extending upwardly beyond the upper surface of said deck, said wall having an upper surface sloping downwardly at a given angle away from the deck-facing portion of said wall, said wall having a slot therein extending centrally along the upper surface thereof, a plate having a horizontal portion resting upon said roofing deck, said plate having a vertical portion extending upwardly from an edge of said horizontal portion and in contact with said wall to the upper surface of said wall, having a sloping portion sloping away from the vertical portion at the given angle in contact with the upper surface of said wall and extending to the slot in the upper surface, and having a second vertical portion projecting downwardly from an edge of said sloping portion into the slot in the upper surface of said wall, an arm projecting from the first-mentioned vertical portion of said plate over said roofing deck, said arm being bendable at its proximal end, and a pointed projection integral with said arm and extending downwardly and perpendicularly of said arm from the distal end thereof and engaging in said layer of insulation to hold the same in place, a layer of protective roofing material covering said layer of roof insulation and the sloping portion of said plate and extending to a position adjacent said slot, a protective cap cemented to and covering the portion of said layer of protective roofing material which covers and is adjacent to said plate, said protective cap extending into said slot, and caulking capped with mastic filling any otherwise-unfilled portions of said slot.

7. A roofing assembly comprising a plurality of roof beams, a channel fixed to the ends of said plurality of roof beams, the legs of the channel projecting horizontally and longitudinally of said plurality of roof beams, one of the legs of said channel being spaced above and extending over said plurality of roof beams, corrugated decking resting upon and across said plurality of roof beams and extending under said one of the legs of said channel, a plate having a first horizontal portion fixed to the upwardly facing surface of said one leg of said channel, having a first vertical portion joining said horizontal portion and extending downwardly from said horizontal portion to said corrugated decking, and having a second horizontal portion extending horizontally from said first vertical portion in contact with and fixed to said corrugated decking, an arm projecting from said plate at the junction of said first horizontal portion and said first vertical portion, said arm being bendable at its proximal end, a pointed projection integral with said arm and extending perpendicularly of said arm and downwardly from the distal end of said arm and engaging and holding roof insulation in place.

8. A roofing assembly comprising a plurality of roof beams, a channel fixed to the ends of said plurality of roof beams, the legs of the channel projecting horizon-

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tally and longitudinally of said plurality of roof beams, one of the legs of said channel being spaced above and extending over said plurality of roof beams, corrugated decking resting upon and across said plurality of roof beams, and extending under said one of the legs of said channel, a plate having a first horizontal portion fixed to the upwardly facing surface of said one leg of said channel, having a first vertical portion joining said horizontal portion and extending downwardly from said horizontal portion to said corrugated decking, having a second horizontal portion extending horizontally from said first vertical portion in contact with and fixed to said corrugated decking, and having a second vertical portion extending upwardly from said first horizontal portion in alignment with the base of said channel, an arm projecting from said plate at the junction of said first horizontal portion and said first vertical portion, said arm being bendable at its proximal end, a pointed projection integral with said arm and extending perpendicularly of said arm and downwardly from the distal end of said arm and engaging and holding roof insulation in place, said plate being bent back upon itself away from said first horizontal portion to form a third vertical portion spaced from and parallel to said second vertical portion with a curved portion of plate connecting the upper edges of said second and third vertical portions, a second plate fixed to the base of said channel and having an upwardly extending vertical portion inserted and fixed between the parallel vertical portions of said first-mentioned plate, the parallel portions of said plate so spaced apart that a close fit is provided for the upwardly extending vertical portion of said second plate, a decorative fascia covering the portions of said channel, said first-mentioned plate and said second plate that face away from said plurality of roof beams, said decorative fascia being supported at its lower end by said second plate and being fixed at its upper end against the second vertical portion of said first-mentioned plate.

9. The roofing assembly of claim 8 additionally comprising a layer of roof insulation covering said metal decking and held in place by said arm, a layer of protective roofing material covering said layer of roof insulation and extending to a position adjacent said decorative fascia, and a protective cap cemented to and covering the upper portion of said decorative fascia and the protective roofing material adjacent thereto.

10. A roofing assembly comprising a flat roofing deck, a plate fixed at the edge of said flat roofing deck in a vertical position and extending above the plane of said roofing deck and having a straight upper edge, a flat layer of roof insulation covering said roofing deck, an arm projecting horizontally from said plate substantially in the plane of the upper surface of said layer of roof insulation, said arm being bendable at its proximal end, a pointed projection integral with said arm and extending perpendicularly of said arm from the distal end of said arm into said layer of roof insulation, a cant strip of roof insulation arranged upon said layer of roof insulation and abutting said plate, said cant strip having an upper edge which is flush with the upper edge of said plate and forms an obtuse angle with the upper surface of said flat layer of roof insulation, a layer of protective roofing material covering said flat layer of roof insulation, said cant strip and the upper edge of said plate, and a protective cap fixed to and covering the portion of said layer of protective roofing material which covers and is adjacent to said plate.

11. A device for securing roof insulation to a roofing deck comprising, a plate, means on said plate extending transversely therefrom for mounting said plate in vertical position at the edge of a roofing deck to be covered by roof insulation, said plate including a wall portion extending throughout the maximum vertical height of said plate, an arm projecting substantially perpendicularly

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from said wall portion and overlying said mounting means at a point intermediate the upper and lower edges to overlie the roof insulation, said arm being bendable at its proximal end, and a pointed projection integral with said arm extending perpendicularly of said arm from the distal end thereof whereby when said plate is mounted at the edge of the roofing deck the proximal end of said arm is adapted to be located in the plane of the upper surface of the roof insulation with the pointed projection of the arm anchorable in the insulation.

12. A device for securing roof insulation to a roof deck for supporting a fascia, comprising, a plate bent back on itself to form two parallel vertical portions connected by a curved portion of plate, one of said parallel portions extending throughout the maximum vertical extent of said plate, means extending transversely of said one of said parallel portions for securing said plate at the edge of a roof deck to be covered by insulation with the parallel portions of said plate in vertical positions, an arm projecting substantially perpendicularly from said one parallel portion and in a direction generally away from the other of said parallel portions at a point intermediate its upper and lower edges to overlie said mounting means, said arm being bendable at its proximal end, a pointed projection integral with said arm extending perpendicularly of said arm from the distal end thereof, whereby when said plate is mounted at the edge of the roof deck the proximal end of said arm is adapted to be located in the plane of the upper surface of roof insulation with the pointed projection of the arm anchorable in the insulation.

13. A roofing assembly comprising a roofing deck, means for supporting said roofing deck, insulation having a substantially horizontal upper surface disposed on said deck, a plate positioned at the edge of said roofing deck, means projecting horizontally from one side of said plate for supporting said plate vertically on said roofing deck at its outer edge, said plate including a downwardly extending open-ended portion disposed beyond the edge of said roof deck, an arm projecting from said plate intermediate the upper and lower edges of said plate in overlying and parallel spaced relation to said plate supporting means, said arm being bendable at its proximal end, and a pointed projection integral with said arm and extending perpendicularly of said arm and downwardly from the distal end thereof for engaging and holding said roof insulation in place on said deck with said proximal end of said arm disposed substantially in the plane of the upper surface of said roof insulation.

14. A device for securing roof insulation to a roof comprising a plate having a horizontal portion and a first vertical portion extending upwardly from one edge of said horizontal portion, said first vertical portion being bent back upon itself away from said horizontal portion to form a second vertical portion spaced from and parallel to said first vertical portion with a curved portion of plate directly connecting the upper edges of the two vertical portions, an arm projecting substantially perpendicularly from said first vertical portion to overlie said horizontal portion in spaced parallel relationship, said arm being bendable at its proximal end and being located with said proximal end positioned below the upper edge of said first vertical portion and spaced above said horizontal portion by a dimension approximately equal to the thickness of the insulation, and a pointed projection integral with said arm and extending from the distal end of said arm toward said horizontal portion.

15. A device for securing roof insulation to a roof comprising a plate having a horizontal portion and a first vertical portion extending upwardly from an edge of said horizontal portion, said first vertical portion being bent back upon itself away from said horizontal portion to form a second vertical portion spaced from and parallel to said first vertical portion with a curved portion of plate

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directly connecting the upper edges of the two vertical portions, a first arm projecting substantially perpendicularly from said first vertical portion to overlie said horizontal portion in spaced parallel relationship, said arm being bendable at its proximal end and being located with said proximal end positioned below the upper edge of said first vertical portion and spaced above said horizontal portion by a dimension approximately equal to the thickness of such insulation, a pointed projection integral with said arm and extending from the distal end of said arm toward said horizontal portion, a second arm projecting from said first vertical portion to overlie said horizontal portion, the proximal end of said second arm being located at a level between said horizontal portion and the level of the proximal end of said first arm, and

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projection integral with said second arm and extending from the distal end of said second arm toward said horizontal portion.

References Cited in the file of this patent

UNITED STATES PATENTS

1,585,468	Covell	May 18, 1926
1,585,987	Hennessy	May 25, 1926
1,756,476	Andet	Apr. 29, 1930
1,788,326	Richards	Jan. 6, 1931
2,029,817	Fegles	Feb. 4, 1936
2,596,786	Norrid	May 13, 1952
2,676,554	Wenger	Apr. 27, 1954
2,855,776	Trostle	Oct. 14, 1958