Oct. 15, 1968 H. H. EDWARDS 3,405,485

FLASHING SYSTEM FOR FLAT ROOFS

Filed June 7, 1967

FIG__1

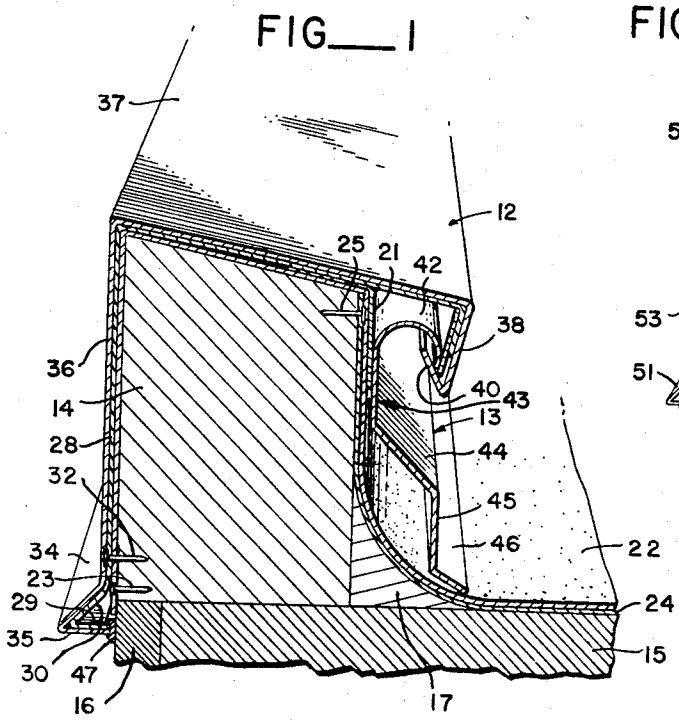
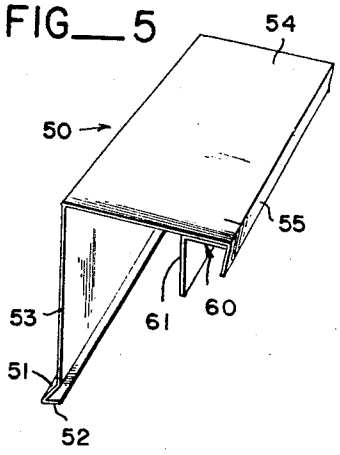


FIG__5



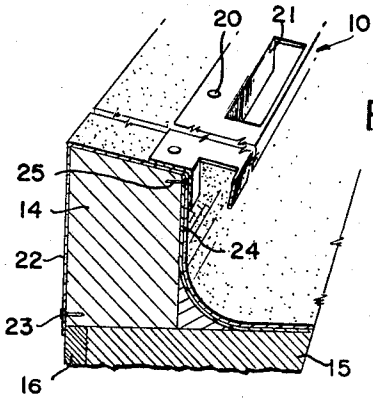


FIG__2

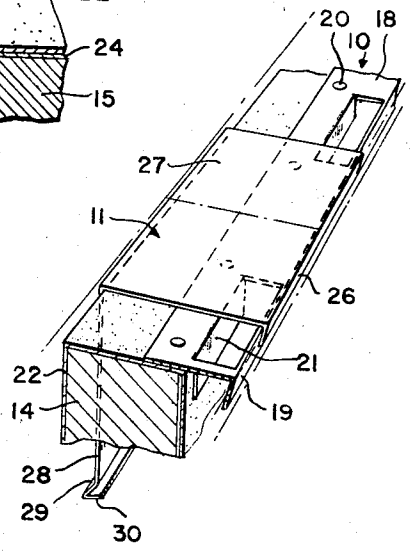


FIG__3

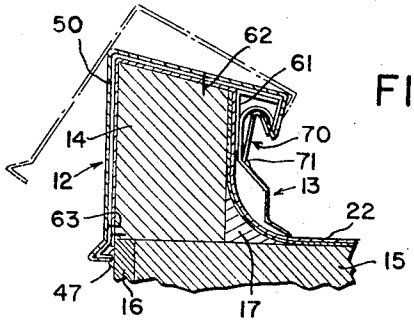


FIG__4

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FLASHING SYSTEM FOR FLAT ROOFS

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ABSTRACT OF THE DISCLOSURE

A roof flashing system for flat roofs in which the roofing material is extended over an upstanding peripheral nailer and a cap is snapped into place over devices fastened to the nailer and is provided with a counterflashing.

The present invention relates to an improved border flashing system for flat roofs to replace use of conventional gravel stops.

For many years metal gravel stops have been used on the peripheries of flat roofs coated with tar to confine rain water gathering on the roof until it can be carried away by the downspouts, to protect the outer edges of the roofing, and to keep the tar from dripping off if softened by the sun. Perimeter water leakage problems commonly develop with the conventional gravel stop arrangement because bituminous materials become brittle in cold weather and have different contraction and expansion characteristics compared to metal stops with the result that the bituminous adhesion to the metal is sheared thereby permitting water to work its way around the stop into the building.

This invention aims to provide an improved edge flashing assembly for flat roofs which will eliminate such leakage problems commonly encountered in the past with gravel stops, which will adjust automatically to building movement, which prevents water ponded on the roof from being wind blown off the roof onto people below, which may be readily removed with major components unharmed to be reapplied or used elsewhere, and which is easy to install or remove.

In the accompanying drawings:

FIG. 1 is a fragmentary transverse cross-sectional view in perspective showing an installation of a first embodiment of the flashing assembly of the present invention;

FIGS. 2 and 3 are fragmentary perspective views to a reduced scale showing respectively the installation of the edging strip, and then the butt clips of the first embodiment;

FIG. 4 is a transverse sectional view showing an installation of a second embodiment; and

FIG. 5 is a perspective view showing one of the butt straps of the second embodiment.

Referring to the illustration of the first embodiment, it is seen that the flashing assembly comprises an edging strip **10**, spaced butt clips **11**, a cap **12** and a counterflashing **13** applied to a continuous wood nailer **14** having an inwardly beveled top face. This nailer is secured around the periphery of a flat roof on the deck sheathing or insulation **15** and is arranged to overlap the upper edge of the side wall facing **16**, if any. A cove **17** is provided at the juncture of the roof and the inner face of the nailer.

The edging strip **10** is of general L cross-section providing wide and narrow flanges **18–19**, the first of which is anchored by nails **20** to the upper face of the nailer **14** such that the narrow flange depends as a skirt in spaced relation to the inner face of the nailer. Lengths of the edging strip are butted end to end to extend continuously around the roof. Tongues **21** are struck downwardly from the wider flange **18** to uniformly space the skirt **19** inwardly from the nailer **14**.

Prior to application of the edging strips **10** the finish sheet **22** of roofing is carried over the top of the nailer **14** and down the outer side thereof to be nailed at **23**. The inner layers **24** of the roofing are stopped at the inner top edge of the nailer and secured by nails **25**.

The clips are formed with a depnding inner lip **26** joining an upper flange **27**, and with an outer flange **28** continuing from the upper flange downwardly to terminal rib comprising a cant **29** and an inturned bottom lip **30**. To apply a clip **11** it is tilted to engage the inner lip **26** over the edging strip skirt **19** and then is pivoted downwardly to spring the outer lip **30** over the outer side of the nailer. Nails **32** are then applied adjacent the cant **29** to anchor the clip **11** to the nailer **14**.

In transverse cross-section the lengths of cap **12** are similar to the clips **11** in that they have an outside terminal rib formed by a cant **34** and inturned lip **35**, an outer flange **36** extending from the cant **34** to a top sloped flange **37**, and a depending inner skirt **38**. This skirt forms an acute dihedral angle with an upturned lip **40** which is adapted to be hooked over the bottom edge of the depending flange **19** of the edging strip **10**. To supply the cap it is transversely cocked with its outer rib **34–35** elevated, and then after the inner lip **40** has been hooked over the flange **19**, the cap is flexed outwardly and pushed downwardly at its outer side to force the lip **35** over the underlying cants **30** of the related butt clips **11** whereupon it snaps back beneath the lips **30** of the butt clips. In this manner the cap **12** is snapped into position without need of perforating it with nails or other fastening devices.

The counterflashing **13** has an upper rounded hook **42**, a back section **43**, and a skirt comprising outwardly V-shaped dihedral flanges **44–45** and a bottom outturned lip **46**. To install the counterflashing its hook **42** is placed over the edge of the lip **40** of the cap **12** with the lower portion **46** of its skirt elevated above the roof, and then it is rotated clockwise into place as viewed in FIG. 1 to bring the back section **43** into engagement with the tongues **21** and the adjacent upturned portion of the roofing **22**, and to bring the lower edge of the lip **46** against the roofing adjacent the lower edge of the cant **17**.

Reviewing the installation of the parts **10–13**, first lengths of the edging strip are nailed in position in end butting relation and with adequate caulking or sealing compound at the ends and over the heads of the nails **20**, and then the butt clips **11** are applied at intervals with a center-to-center spacing corresponding to the length of the cap pieces **12** to be used. If particularly long lengths of cap pieces are to be utilized application of intermediate butt clips may be advantageous. Then after the tops of the butt clips are dressed with sealant, the cap pieces are snapped into place with their end butt joints centered over the butt clips and caulked by the sealant. It is then preferred to apply a bead **47** of caulking along the inner edge of the outer terminal lip **35** of the cap. The counterflashing **13** is then rotated into position.

Continuing to the second embodiment, it is seen that there is no longer a continuous edging strip **10** and overlapping butt clips **11**. Instead, there is provided longitudinally spaced butt straps **50** formed with an outer rib **51–52**, outer flange **53**, top sloped flange **54**, and inner skirt **55**, corresponding to the previously described rib **29–30**, flange **28**, flange **27**, and skirt **19**, respectively. Spacer angle clips **60** are welded at intervals to the underside of the top flange **54** to present a depending flange **61** corresponding to the tongues **21**, or in the alternative the spacing flange **61** can also be struck down as a tongue from the top flange **54**. Preferably the spacing between the outer flange **53** and spacer flange **61** is made slightly

greater than the width of the nailer **14** to give tolerance during installation in case one of the nailers **14** is warped. The butt straps **50** are secured to the nailer **14** by nails **62** at the top and nails **63** adjacent the outer cant with the same spacing as in the case of the butt clips **11**. They are similarly dressed with sealant to make water-tight joints when the cap lengths **12** are snapped into place each with its inner lip **40** hooked over the skirt **19** and its outer rib **34–35** over the rib **51–52**. Then the lower edge is sealed at **47** and the counterflashing **13** applied as before.

In addition, V-shaped spreader clips **70** can be used with either embodiment. As illustrated in FIG. 4, the spreader clip is engaged against the hook **40** of the cap **12** beneath the counterflashing **13** and the lower edge is then forced into the vertex between the faces **43–44** of the counterflashing to keep the counterflashing tight against the spacer flange **61** and roofing **22** so that it will not flutter under adverse wind conditions. To assist in holding the spreader clips **70** in position at intervals along the cap lengths, the upper edge portion of the counterflashing flange **44** may be outwardly dimpled at **71** adjacent the ends of the counterflashing to catch the lower edge of the spreader clips.

From the foregoing description and related drawings it will be apparent that with either embodiment it will be virtually impossible for water on the roof to work its way past the flashing assembly and beneath the roofing **22, 24**. In case of need of repairs to the roofing, the counterflashing **13** and cap **12** can be readily removed without damaging the parts. Neither installation or removal requires skilled or experienced workers.

It is believed that the invention will have been clearly understood from the foregoing detailed description of my now-preferred illustrated embodiment. Changes in the details of construction may be resorted to without departing from the spirit of the invention and it is accordingly my intention that no limitations be implied and that the hereto annexed claims be given the broadest interpretations to which the employed language fairly admits.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. In combination with an elongated nailer having an inner face, top face and outer face covered with roofing, locking means anchored to the nailer and providing a down-turned locking lip spaced a predetermined distance inwardly from said inner face and providing a horizontal locking rib adjacent the bottom of the outer face of the nailer, and elongated snap-on cap means covering the top and outer faces of the nailer and overlying said locking means, said cap means having an upturned lip along its inner edge hooking over said down-turned lip and a snap rib along its outer edge arranged and adapted to be snapped over said locking rib by lateral flexing of the cap means after said lips have been engaged.

2. The combination according to claim **1** in which a counterflashing overlies a major portion of the roofing covering the inner face of the nailer and has an upper downturned hook engaging said upturned lip.

3. The combination according to claim **1** in which said locking means provides a down-turned spacer lip spaced toward said inner face from said locking lip and arranged to engage the portion of the roofing covering the upper portion of said inner face of the nailer.

4. The combination according to claim **1** in which a counterflashing overlies a major portion of the roofing covering the inner face of the nailer, said counterflashing having at the top an upwardly arched hook bearing at the back against said spacer lip and having its free edge hooked over said upturned lip of the cap means.

5. The combination according to claim **4** in which an upwardly arched locking spacer is wedged between said upturned lip and said counterflashing and holds the latter against said spacer lip.

6. The combination according to claim **1** in which said nailer and cap means slope downwardly at the top from said outer face to the inner face.

7. The combination according to claim **1** in which said locking means comprises spaced straps each providing a said locking lip at one longitudinal edge and a said locking rib at the other longitudinal edge, and which said cap means comprises lengths of elongated cap members cutting at the ends over the center portion of a respective said strap, each said cap member providing a said upturned lip and snap rib therealong.

8. The combination according to claim **1** in which said locking means comprises an edging strip providing said upturned lip and plural butt clips each providing a said locking rib, and in which said cap means comprises lengths of elongated cap members butting at the ends over the center portion of a respective said clip, each said cap member providing a said upturned lip and snap rib therealong.

9. The combination according to claim **1** in which said cap means comprises lengths of elongated cap means butting at their ends over said locking means.

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