Sept. 8, 1931. H. C. MACAN 1,822,410

ROOF ACCESSORY

Filed Dec. 29, 1928

Fig. 1.

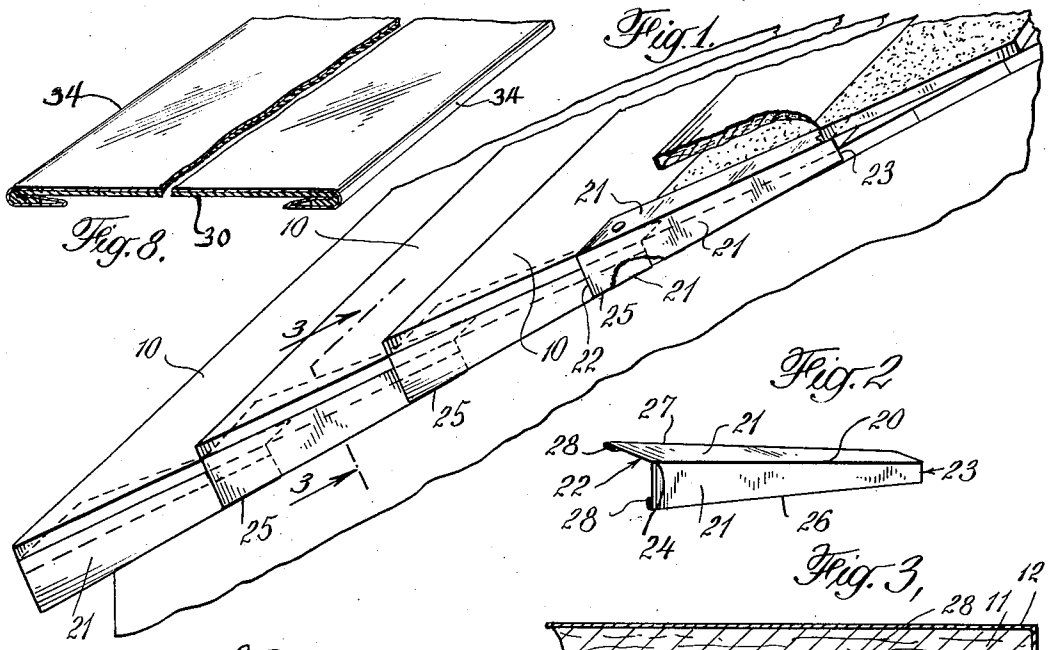


Fig. 8.

Fig. 2

Fig. 3,

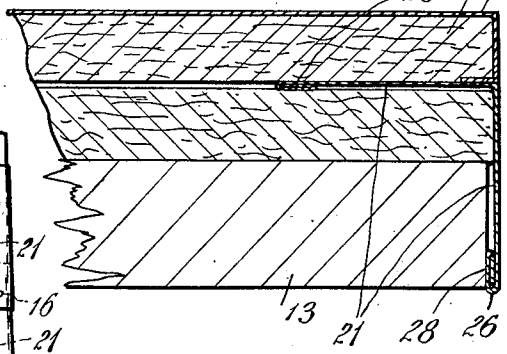


Fig. 4,

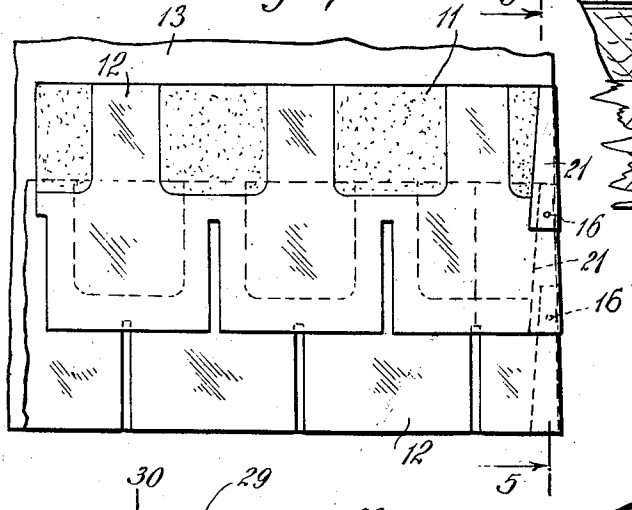


Fig. 5

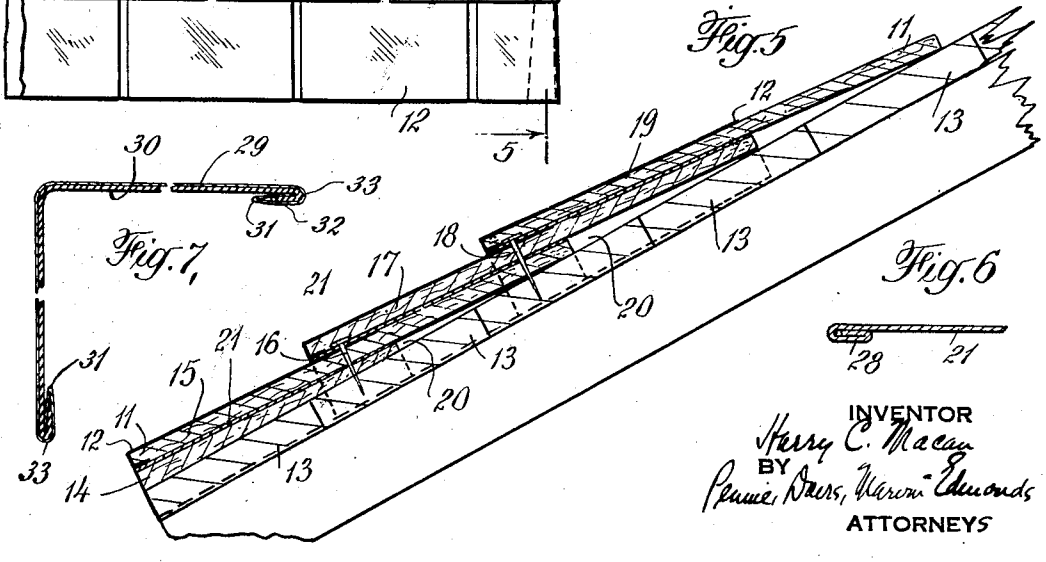


Fig. 7,

Fig. 6

INVENTOR
Harry C. Macan
BY
Pennie, Davis, Marvin & Edmonds
ATTORNEYS

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UNITED STATES PATENT OFFICE

HARRY C. MACAN, OF RUTHERFORD, NEW JERSEY, ASSIGNOR TO ANACONDA SALES COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE

ROOF ACCESSORY

Application filed December 29, 1928. Serial No. 329,283.

This invention relates to roofing accessories which are used on roofs to render them tight against rain and wind at the edges or verges, in the valleys, around chimneys and in other similar locations. More specifically, the invention is concerned with an accessory suitable for these various purposes, which is made wholly or in part of weather-resistant metal such as copper. In one form of the invention, the metal is used alone, being strengthened and reinforced by folding, crimping or the like to give the accessory the necessary stiffness in one direction, while in another form, the metal is used as a facing and is backed and supported by a base of flexible fibrous material such as thin felt, the two parts being secured together in such manner as not to interfere with the shaping of the accessory to fit the location where it is to be employed.

By way of example, an embodiment of the invention in the form of a verge accessory will be illustrated and described in detail, though it is to be understood that the utility of the invention is not limited to that particular adaptation, as will be made clear as the description proceeds.

In an ordinary roof covered by roofing elements laid in overlapping courses in the usual manner, the elements at the ends of the courses may be laid with their side edges flush with the ends of the roofing boards or they may project a slight distance beyond these boards. In either event, there are likely to be spaces at the rear edges of the courses through which rain may enter the roof in a direction lengthwise of the courses, these spaces being of considerable size if the elements are of uniform thickness from end to end, and of less size if the elements are tapered. Such spaces reduce the portection afforded by the roof and are unsightly.

To prevent the entrance of rain, cold air or wind at these points and to give the verges of the roof a finished appearance, I have devised a simple accessory which is laid in place along the side edge of each element or shingle at the verge as that element is placed in position, the accessory having a portion which extends down over the ends of the element on which it is laid and over portions of the other elements which lie beneath that element. In the ordinary roof, the shingles are laid so that the exposed portion of each shingle overlies part of a shingle in the course next beneath and part of a shingle in the second underlying course. There is only a small area where the three elements overlap and beyond that area on up the roof there is a substantial distance where only two shingles protect it. Accordingly, at the butt end, the distance from the top of each shingle to the roofing boards is greatest, and this distance decreases gradually as the rear edge of the shingle is approached, where the distance is equal to the thickness of the shingle.

In the accessory of the present invention when employed at the verges, the portion which is to extend over the edges of the shingles has a tapering width to correspond to the varying distance between the top of the shingle on which it is laid and the roofing boards, and as a consequence, a plurality of these accessories may be laid, one for each course, and their lower exposed edges will lie in a line so that the roof is given an attractive finished appearance. The portion of each accessory which lies on top of the shingle has the same shape as the depending portion so that the accessory may be used interchangeably for either verge of the roof.

When used in valleys, the accessory has parallel sides and it is bent along its median line to conform to the configuration of the roof at the location where it is to be used. Its width is sufficient so that it will extend to either side of the valley and be overlain by adjacent shingles.

While the shape and size of the accessory will depend on the use to which it is to be put, the accessory will in any case consist of sheet metal, such as copper, cut to proper size and shape and stiffened and reinforced by folding or crimping the metal back upon itself along the lateral edges. If desired, the accessory may also include a backing of material such as felt, cut to size, and secured to the metal by having its lateral edges engaged and gripped by the crimping given the metal. The felt may be otherwise free from

the metal or secured to its rear face by suitable adhesive. By employing lateral crimping in the manner described, the felt and metal are firmly bound together, and the crimping in no way reduces the flexibility of the accessory along its median line, such flexibility being required in order that the accessory may be fitted properly in position.

For a better understanding of the invention, reference may be had to the accompanying drawings in which

Fig. 1 is a view of a portion of a roof verge in perspective with parts broken away and illustrating the manner of using the novel accessory,

Fig. 2 is a view in perspective of the accessory,

Fig. 3 is a sectional view on the line 3—3 of Fig. 1,

Fig. 4 is a plan view of the parts shown in Fig. 1,

Fig. 5 is a sectional view on the line 5—5 of Fig. 4,

Fig. 6 is a sectional view through a portion of the accessory,

Fig. 7 is a sectional view of an accessory of the composite type, and

Fig. 8 is a view in perspective of a valley accessory.

Referring now to the drawings, there is shown as Figs. 1 and 5, a portion of a roof at a verge, this roof being covered with roofing elements of the strip shingle type laid in overlapping course. The elements shown are of the metal-clad type, each element 10 including a base 11 of non-metallic material and a coating of metal 12 covering the normally exposed portions thereof, these elements being laid in the usual manner with those in each course offset from those in adjacent courses on either side. While the elements illustrated are of the copper-clad type, it is to be understood that the utility of this invention is in no way limited to use with any particular element, and it may be employed with any type of element. When employed with metal-clad elements it is preferably made of the same metal used in such elements, since in that event, it is less apparent in place.

The elements or shingles are shown laid in the ordinary manner on roofing boards 13 laid on rafters, the side edges of the shingles at the verge lying flush with the ends of the boards. As these shingles are of uniform thickness, a starting strip 14 is laid on the boards at the lower edge of the roof and over this are laid the shingles of the first course 15, with their butt edges flush with the lower edge of the strip. After this course of shingles is in position and held by nails 16, the shingles of the next higher course 17 are laid to cover the rear edge of the first course, leaving a part of each shingle in that course exposed. Nails 18 are now driven through each shingle of the course 17 through the rear ends of the shingles in the course 16 and into the roofing boards. The third course 19 is now laid to overlap the second course, the exposure of each course being such that the butt end of each shingle in the third course overlies parts of shingles in the two previously laid courses, and it will be seen that, except for the nails 16, each nail driven holds shingles in two courses in place.

Due to the fact that the shingles are of uniform thickness, it will be noted that there is a space 20 at the rear edge of each course between the roofing boards and the under surfaces of the shingles of the next overlying course. Such spaces are of considerable size in a roof laid with shingles of uniform thickness but similar spaces of varying size occur in roofs covered by tapered shingles, because of the impracticability of forming the shingles with a feather edge at the rear end and because of variations in their taper. Throughout the body of the roof these spaces are unimportant but at the ends of the courses along the verges of the roof, they offer an opportunity for wind, rain and snow to enter.

To overcome this difficulty, I have devised an accessory to be laid at the verges of the roof, which accessory is shown in different forms in Figs. 2 and 7. This accessory may be made of sheet metal of suitable thickness, either with or without a backing. The metal employed is preferably copper because of its resistance to corrosion. The accessory is formed of two similar portions 21 and is folded along its median line 20 so that these portions lie at right angles to each other. Each portion has its greatest width at one end 22 of the accessory and the width of the portions decreases toward the other end, where the width is at a minimum. The length of the accessory and the width dimensions of its parts depend on the dimensions of the shingles with which it is to be laid and the normal exposure of the shingles, and the accessory is therefore made in different sizes for different purposes. The minimum width of its parts 21 at the end 23 should not be less than the thickness of a single shingle with which it is to be used, while its maximum width may be any desired value, so long as all the accessories used on a roof are of the same shape and dimensions.

In using the accessory, the shingles of the first course are laid and before the end shingle of the course is nailed in position, an accessory is laid along the outer edge of the end shingle. The accessory is placed so that its end 22 lies flush with the line along which the shingles of the next higher course are to be laid, and it extends from that line to the rear end of the shingle. When the nail 16 is driven, it will pass through the accessory and hold it in place. After the next course is laid and before the end shingle is nailed,

another accessory is placed along the edge of the end shingle, and when the end shingle is nailed, the nail 18 will pass through both accessories, so that in the finished roof, each accessory is held in place by two nails.

In the ordinary roof, covered with shingles laid in the manner described, it will be apparent that the dimension of each shingle from butt to rear is equal to twice the width of normal exposure plus the head-lap, head-lap being the extent to which a shingle in one course is over-lain by a shingle in the second following course and representing the distance that rain must travel in the space between a pair of shingles in order to enter the roof. The length of the accessory should therefore be equal to the width of the normal exposure plus the head-lap since it is to extend from the rear edge of the exposure area to the rear end of the shingle.

In order to determine the angle of taper between the edge 26 and the median line 20, the following method may be used. Erect a right triangle on the part 21 using the median line 20 as a base, the length of the base, however, being equal to the normal exposure of the elements with which the accessory is to be used. The altitude of the triangle will then be equal to the thickness of one element and be marked off on the part 21 at the end 24 of the median line. The edge 26 of the part 21 should then be parallel to the hypotenuse of this triangle and may be at any desired distance from the hypotenuse, provided that at the end 23, the part 21 has a width equal to or greater than the thickness of an element.

Since all the accessories to be used along a verge will be of uniform shape and size and of uniform length, it will be apparent that when these accessories are laid in the manner described, the edges of the portions 21 which depend along the verge will register, giving the series of partially overlying accessories a smooth edge 25, and these accessories will cover the spaces 20 and more or less of the ends of the roofing boards dependent on the amount by which the amount by which the dimensions of the accessories exceed the minimum requirements.

The accessory illustrated in Fig. 2 is made entirely of metal and to make it, a blank of trapezoidal form is cut from a sheet. To give the accessory added strength and stiffness without interfering with its normal use, the edges of the blank are folded inwardly against the rear face of the blank, and the folding repeated to produce an edge rib 28 as shown in Fig. 6. The dimensions of the blank will be dependent on the dimensions of the shingles with which the accessory is to be used and the exposure with which such shingles are to be laid.

In Fig. 7, there is shown in a section a different construction in which the metal blank 29 is relatively thin and is backed by a layer of material 30. This layer may be of flexible fibrous material, and thin asphalt-impregnated felt is preferably employed for the purpose. The felt is cut to proper size and shape and laid on the back of the metal, the felt being preferably slightly narrower than the metal. The edges of the metal are now folded inward as at 31 to overlie the edges 32 of the felt, then the folded portions are again folded along the lines 33. By such folding the felt is securely gripped by the metal along the side edges of the accessory. While further attachment of the felt to metal is not required, the felt may if desired be secured to the under surface of the metal by means of an adhesive, such as asphalt emulsion.

The composite accessory shown is cheap and easy to construct and the felt strengthens and reinforces the metal without interfering with its necessary flexibility along its longitudinal axis.

In Fig. 8, there is shown an accessory of the novel construction suitable for valleys, etc. This accessory illustrated has the felt backing 30, secured to the metal along the lateral edges 34 of the latter, and it is of substantially greater width than the verge accessory, its side edges being parallel. It is flexible along its median line so that it may be shaped according to the requirements of the location where it is to be used. It will be apparent that the new accessory may be made in numerous shapes and forms for other purposes.

What I claim:

1. A roofing accessory which comprises a metal blank flexible about its longitudinal axis, and a flexible fibrous backing for said blank, said backing being of substantially the same length as the blank and of less width, the lateral edges of the blank and backing being in-folded and the extreme lateral edges of the blank extending around the extreme lateral edges of the backing and concealing them.

2. A roofing accessory which comprises a metal blank flexible about its longitudinal axis, and a flexible fibrous backing for the blank lying wholly within the outline of the blank, said backing being secured to the blank along the lateral edges thereof by in-folded edges of said blank, said backing also having in-folded portions along said lateral edges adding to the stiffening effect of the in-folded edges of the blank.

3. In a roof, roofing boards, a plurality of shingles of similar length laid side by side in overlapping courses on said boards, an opening occurring at the end of each course between the rear end of each shingle and a shingle of the overlying course, and a roofing accessory disposed at the end of each course and having a portion lying on top

of the end shingle of the course and extending rearwardly from the exposure line of said shingle and overlain by a shingle in the next higher course, and another portion extending down along the edge of said first shingle to cover said opening.

4. In a roof, roofing boards, a plurality of shingles of similar length laid side by side in overlapping courses on said boards, an opening occurring at the end of each course between the rear end of each shingle and a shingle of the overlying course, and a roofing accessory disposed at the end of each course having a portion overlying the end shingle in the course and overlain and concealed by a shingle of the next higher course, and another portion extending down along the edge of said shingle to cover said opening, said first overlying portion of the accessory registering at one end with the butt end of the shingle under which it lies.

5. In a roof, roofing boards, a plurality of shingles of similar length and thickness laid on said boards in overlapping courses, an opening occurring at the end of each course between the rear end of each shingle and the under surface of the overlying shingle, and a roofing accessory disposed at the end of each course and having a portion overlying the end shingle in the course and wholly concealed by a shingle in the next higher course and another portion extending down along the edge of said shingle to cover said opening, said second portion being of tapering width with its minimum width not less than the thickness of one of said shingles.

6. In a roof, roofing boards, a plurality of shingles of similar length and thickness laid in overlapping courses with head-lap, an opening occurring at the end of each course between the rear end of each shingle and the under surface of the overlying shingle, and roofing accessories one for each course, each accessory having a portion overlying the face of the end shingle in the course and wholly concealed by a shingle in the next higher course, one end of said portion registering with the butt end of said concealing shingle, and another portion extending along the edge of the shingle and covering said opening, the length of said accessory along a line between said portions being at least equal to the width of the exposure of a shingle plus the head-lap.

In testimony whereof I affix my signature.

HARRY C. MACAN.