

Dec. 12, 1961

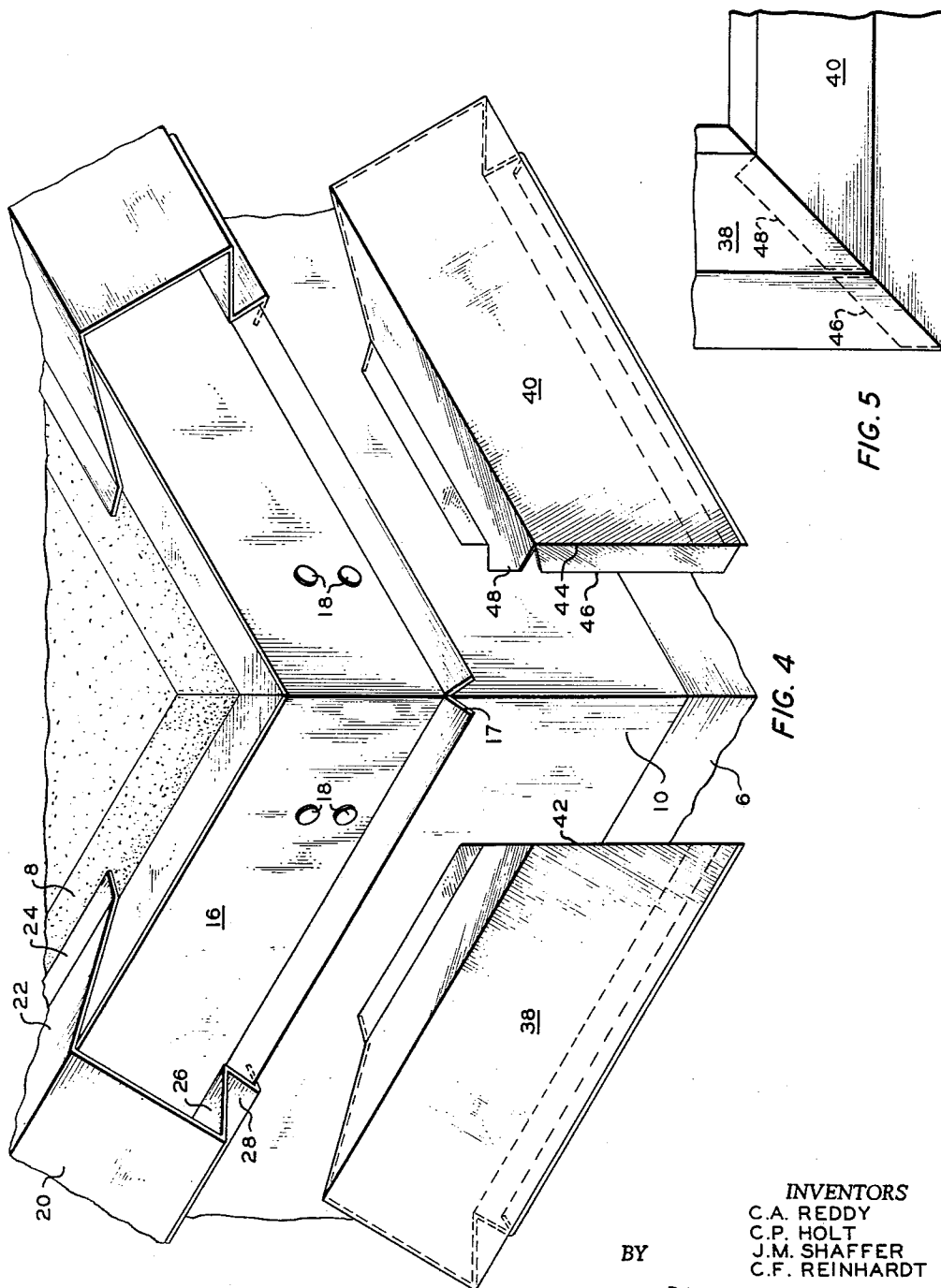
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3,012,376

ROOF COPING

Filed Feb. 13, 1958

2 Sheets-Sheet 2



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3,012,376

ROOF COPING

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Filed Feb. 13, 1958, Ser. No. 715,111

8 Claims. (Cl. 50—66)

This invention relates to a coping for use on building roofs. In one aspect it relates to a coping which is held in place by tension and can be easily removed.

It is an object of this invention to provide an improved coping for use on building roofs.

Another object of this invention is to provide a removable coping which is architecturally pleasing.

Still another object of this invention is to provide a removable roof coping which is freed to expand and contract with temperature changes.

These and other objects of the invention will become more readily apparent from the following detailed description and discussion.

The foregoing objects are achieved broadly by providing a trough-like coping member which is adapted to fit over the edge of a roof, said member being held in place by tension and being readily removable.

The invention will be more fully described by reference to the accompanying drawings, of which

FIGURE 1 is an end section view of a building structure showing an installed coping embodying the invention;

FIGURE 2 is an isometric view of a coping butt joint clip;

FIGURE 3 is a plan view of a coping end covering;

FIGURE 4 is an isometric view of a corner coping installation; and

FIGURE 5 is a plan view of a roof corner with the coping installed.

Referring to the figures, and more particularly FIGURE 1, a typical installation comprises a roof deck 2 supported on a plate 4, which in turn is supported by a vertical beam 6 attached to the roof deck. A metal covering or fascia 10 is provided to protect the outer facings of the roof deck and plate and the adjoining areas. Resting on roof deck 2, at the outer periphery thereof, and attached thereto is a built-up wood member 8. One side of this member is positioned so as to abut the outer edge of the roof deck and the opposite side is tapered or beveled toward the inner part of the roof. As necessary additional tapering or beveling is provided in order to eliminate sharp edges from coming in contact with the tar paper roofing material which covers the roof deck and is continued from the roof over the built-up member so as to completely cover this member and also the outer face of the roof deck. Usually the roofing material comprises several layers of tar paper with asphalt or other material between each layer. The roofing is terminated with the open ends pointed downwardly; therefore it is desirable to reverse the lowest layer of tar paper, bending this material back over the several layers to seal the open ends of said layers and provide a pocket to trap any roofing compound which might leak out.

The coping comprises two members, one of which is an extended rectangular plate 16, which is bent outwardly at the bottom to provide a drip portion 17. This member is attached vertically to the abutting edge of built-up member 8 by nails or screws 18 which pass through the plate, roof covering 12 and into the built-up member. As shown the top edge of plate 16 projects above the built-up member, and the bent back portion 17 projects beneath both the built-up member and roof deck 2. In addition the coping includes a trough-like extended member 19 which is adapted to fit over the rectangular plate

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16 and built-up member 8 in an inverted position. Coping member 19 has a top wall 20 and upper and lower side walls 22 and 26 respectively. The upper side wall 22 is bent upwardly at its free end to provide lip 24 (for use in removing coping) which rests in contact with the roof covering on the sloping face of built-up member 8, at substantially the point of bending. The lower side wall 26 is also bent outwardly 28 and then back 29 to provide a receptacle for the bent out portion 17 of plate member 16. The bent out portion 28 of the lower wall also serves as a drip lip. To install the coping member 19, the bent back portion 29 is first hooked onto member 17 after which the coping member is distorted outwardly, by lifting up on member 24 whereby the angle between the upper side wall 22 and top 20 is increased, and the upper side wall is passed over plate 16 toward the inner portion of the roof. When the plate 16 comes in contact with the junction of walls 20 and 22, member 24 is released into contact with roof over built-up member 8. In the installed position coping member 19 is still partially deformed and thus is held in place by tension. When it is desired to inspect or repair the area beneath the coping, a procedure opposite to that described can be employed either to partially or entirely remove member 19.

The coping assembly can be made of sufficient length to cover the entire length of the roof in any one direction; however, in many instances it may be desirable to provide shorter lengths, particularly of the trough-like member 19. In this case the roof coping is built of a number of sections 19 butted together, with sufficient space left between the sections to provide for expansion due to atmospheric changes. To provide covering of the sections a butt joint clip (see FIGURE 2) is provided. This clip is similar in configuration to coping member 19 and is designated with the same numbers. The clips, which are made slightly larger than coping member 19 in order to accommodate the thickness of said member, are installed over the joints of the coping member 19, being also held in place by tension.

When it is necessary to end the coping, other than by turning a corner, a cover plate can be provided for covering the end of the coping. One type of plate is shown in FIGURE 3. In this particular plate 30 is formed to configure to the end of coping member 19 along the dotted lines, so that sections 32, 34, and 36 can be folded back over the upper side wall, lower side wall, and top wall respectively of the coping. The flat portion of the coping end is extended to cover the edge of the roof 2 and a major proportion of the built-up member 8. When installed this member covers the area bounded by coping member 19 and by the dotted lines 3 shown in FIGURE 1.

In FIGURE 4 there is illustrated coping members 38 and 40 which are used to turn a roof corner. These members are similar to member 19 except that they are cut at a 45° angle at abutting edges 42 and 44. In addition member 40 has two projecting pieces 46 and 48 which are adapted to bend around the top wall and upper side wall respectively of coping member 38. A plan view of a typical corner installation is shown in FIGURE 5.

The preceding discussion has been directed to a preferred embodiment of the invention; however, it is not intended that this be taken in any limiting sense and it is contemplated that variations and modifications in the apparatus can be provided within the scope of the invention. For example, a flat roof is shown in the drawings for use in conjunction with the invention; however, the invention can also be applied to other types of roofs, for example, parapet-type roofs. When utilizing a parapet-type roof the built-up member is installed on top of the parapet wall and the roofing material is continued from the roof proper up over the top of the parapet wall and

built-up member, in a similar manner as shown in FIGURE 1. Built-up member 8, while preferably solid, can be of a hollow construction with rectangular plate 16 being attached thereto by screws or by other suitable means. In the drawing of FIGURE 1 the coping member 19 is shown as having an angle between the top wall 20 and the lower side wall 26 of about 90°. This angle can be varied over a wide range depending on the particular architectural result desired. In general it is desirable to use a larger rather than a smaller angle at this point inasmuch as increasing this angle decreases the quantity of material required for the coping member. The height of plate 16 can be either raised or lowered as desired to increase or decrease the angle between the top wall and the upper side wall of coping member 19. Although shown in the vertical position, this plate can be installed at an angle to the vertical if desired, by suitably altering the shape of built-up member 8. Coping member 19 and plate 16 are preferably constructed of metals; however, any material having sufficient rigidity can be used. In the case of member 19 it is necessary that the material have sufficient resiliency so that this member will be held in place by tension when deformed and placed in position.

The coping of this invention possesses a number of advantages. For example, the design used permits the roof to be installed and completed prior to installing the finished coping. A particular advantage lies in the fact that the roofing material can be carried over the entire roof, including the parapet, if this type of roof is employed. Any coping material is subject to stresses due to varying thermal conditions. The coping of this invention is adapted by reason of its construction to expand and contract with atmospheric conditions, completely independent of the roof proper. The coping protects the roof from physical contact and also provides a degree of protection from the elements. The coping can be varied in design to provide an architecturally attractive result to suit the individual. It is also designed and shaped to take advantage of the elasticity and springiness of the metal to hold it firmly in position. This permits its removal for roof inspection and repair work. The coping can be installed almost free of internal thermal forces by using butt joints for the rectangular plate members and also staggered butt joints for the coping members 19. The exposed butt joints are then covered with butt joint clips as described. The parts of the coping assembly are designed to permit their being fabricated on a simple break. This piece of equipment is available in all sheet metal shops and lends itself well to mass production.

Having thus described the invention by providing a specific example thereof, it is to be understood that no undue limitations and restrictions are to be drawn by reason thereof and that many variations and modifications are within the scope of the invention.

We claim:

1. In a building roof having a built-up member attached to the top periphery thereof, one side of said member abutting the outer edge of the roof and said member being beveled toward the inner portion of the roof, in which the roof covering material is extended over said member and the outer edge of the roof, a coping comprising an extended plate member bent outwardly at the bottom, attached to the abutting side of said built-up member and extending above and below said built-up member, and a resilient trough-like member placed in an inverted position over and in contact with the lower extremity of the plate member and the beveled portion of said covered built-up member, said trough-like member having a lower side wall bent outwardly and bent back at its free end and fitting around the outwardly bent portion of the plate member, said trough-like member being held in place substantially entirely by tension at the point of contact with the beveled portion of said built-up member and the point of contact of said free end with said outwardly bent portion of the plate member.

2. In a building roof having a built-up member attached to the top periphery thereof, one side of said member abutting the outer edge of the roof and said member being beveled toward the inner portion of the roof, in which the roof covering material is extended over said member and the outer edge of the roof, a coping comprising an extended plate member bent outwardly at the bottom, attached to the abutting side of said built-up member, and extending above and below said built-up member, and a resilient trough-like member having a top wall and upper and lower side walls, the upper side wall in contact at its free end with the covered built-up member and in contact with the upper edge of the plate member at its juncture with the top wall, and the lower side wall being bent outwardly and bent back at its free end and fitting around the outwardly bent portion of the plate member, said trough-like member being held in place substantially entirely by tension at the point of contact with the beveled portion of said built-up member and the point of contact of said free end with said outwardly bent portion of the plate member.

3. In a building roof having a built-up member attached to the top periphery thereof, one side of said member abutting the outer edge of the roof and said member being beveled toward the inner portion of the roof, in which the roof covering material is extended over said member and the outer edge of the roof, a removable coping comprising a vertical extended rectangular plate member bent outwardly at the bottom, attached to the abutting side of said built-up member, and extending above and below said built-up member, and an inverted resilient trough-like plate member of unitary construction having a top wall and upper and lower side walls, the upper side wall in contact at its free end with the covered built-up member and in contact with the upper edge of the rectangular plate member at its juncture with the top wall, and the lower side wall bent outwardly and bent back at its free end to fit around the outwardly bent portion of the rectangular plate member, said trough-like member being held in place substantially entirely by tension at the points of contact with said outwardly bent portion and said built-up member.

4. In a building roof having a built-up member attached to the top periphery thereof, one side of said member abutting the outer edge of the roof and said member being beveled toward the inner portion of the roof, in which the roof covering material is extended over said member and the outer edge of the roof, a coping comprising an extended rectangular plate member bent outwardly at the bottom attached to the abutting side of said built-up member and extending above and below said built-up member, and a series of resilient trough-like members placed in an inverted position over and in contact with the lower extremity of the plate member and the beveled portion of said covered built-up member, said trough-like members having a lower side wall bent outwardly and bent back at its free end and fitting around the outwardly bent portion of the plate member, said trough-like member being held in place substantially entirely by tension at the point of contact with the beveled portion of said built-up member and the point of contact of said free end with said outwardly bent portion of the plate member, said trough-like members being butted together, the butt joints being covered by short trough-like members of similar construction placed over the butt joints and held in tension.

5. In a building roof having a built-up member attached to the top periphery thereof, one side of said member abutting the outer edges of the roof and said member being beveled toward the inner portion of the roof, in which the roof covering material is extended over said member and the outer edge of the roof, a coping comprising a series of extended rectangular plate members bent outwardly at the bottom attached to the outer side of resilient said built-up member and extending above and below said built-up member, said plate members be-

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ing butted together, and a series of resilient trough-like members placed in an inverted position over and in contact with the lower extremity of the plate members and the beveled portion of said covered built-up member, staggered to cover the butt joints of said plate members, said trough-like members having a lower side wall bent outwardly and bent back at its free end and fitting around the outwardly bent portion of the plate member, said trough-like member being held in place substantially entirely by tension at the point of contact with the beveled portion of said built-up member and the point of contact of said free end with said outwardly bent portion of the plate member, said trough-like members being butted together, the butt joints being covered by short trough-like members of similar construction placed over the butt joints and held in place substantially entirely by tension.

6. The apparatus of claim 5 in which each trough-like member has a top wall and an upper wall, the upper side wall in contact at its free end with the covered built-up member and in contact with the upper edge of a rectangular plate member at its juncture with the top wall.

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7. The apparatus of claim 6 in which the extended rectangular plate members are vertical.

8. An assembly as described in claim 7 and further provided with corner members having the same general configuration as said short trough-like members but terminally beveled to engage each other at a corner of a building and having projecting pieces at the beveled ends establishing overlapping engagement.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,012,376

December 12 1961

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It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 4, line 74, strike out "resilient".

Signed and sealed this 8th day of May 1962.

(SEAL)

Attest:

ERNEST W. SWIDER
Attesting Officer

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Commissioner of Patents