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H. J. LITTLE

2,211,508

SURFACING UNIT

Original Filed March 11, 1935



Fig. 1.

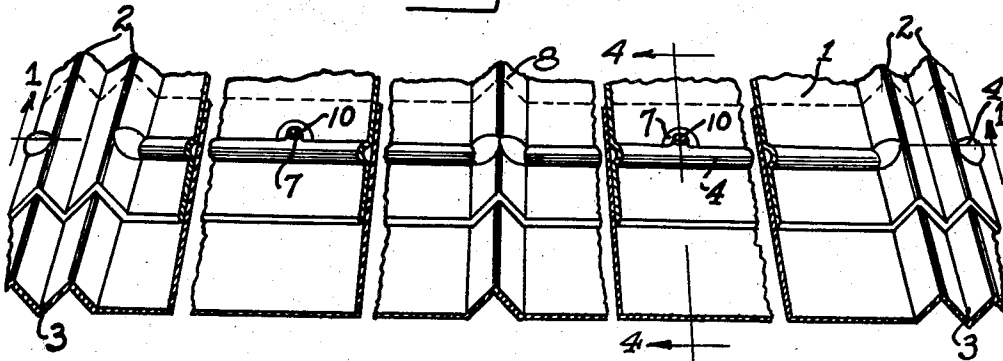


Fig. 2.

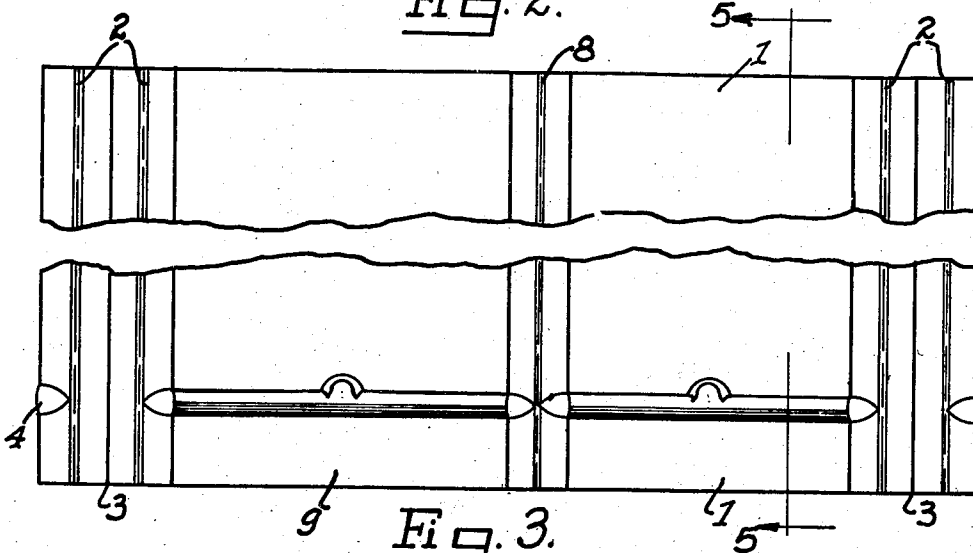


Fig. 3.

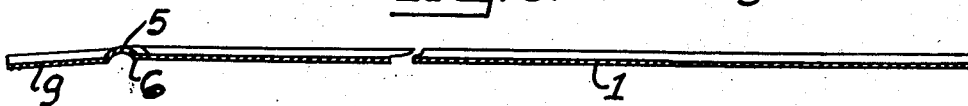


Fig. 5.

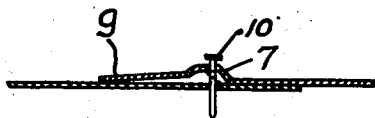


Fig. 4.

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SURFACING UNIT

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Original application March 11, 1935, Serial No.
10,358. Divided and this application July 12,
1935, Serial No. 31,060

10 Claims. (Cl. 108—13)

This case is a division of my application Serial No. 10,358, filed March 11, 1935, and issued on March 23, 1937 as Patent No. 2,074,966.

This invention relates to surface covering material and particularly pertains to sheet metal strips which are of novel and improved construction and are employed as surfacing units for walls, roofing and the like of buildings. Sheet metal is thin and flexible, and particularly so are roofing and siding units of relatively large dimensions. To overcome this and give added rigidity and stiffness, the units are ordinarily corrugated. Furthermore, when sheet metal surfacing units are laid in overlapping relation, the overlapping margins are wavy and out of contact at various spaced intervals between places where nails are applied, thereby creating open spaces which give access to rain.

It is the aim of the present invention to construct novel and improved surfacing units which overcome the foregoing objection and also to provide surfacing units which may be readily assembled into a weather protecting layer. The units are preferably provided with a single or double corrugation on opposite marginal edges, an intermediate single or double corrugation, preferably parallel to the corrugations on the marginal edges, and a transverse corrugation adjacent to one end of the unit. The intermediate corrugation or corrugations is sometimes omitted whether edge corrugations and/or intermediate corrugations be employed or not. That end of the unit which is provided with the transverse corrugation, may be advantageously flexed below the plane of the under side of the units so that when overlapped with the opposite end of a similar unit, the flexed end will be compressed by the nails to provide a continuous line contact.

For a better understanding of the invention, reference may be made to the accompanying drawing in which:

Figure 1 is a cross-sectional view of the upper sheet taken on lines 1—1 of Figure 2.

Figure 2 is a section of surface covering showing the top and bottom ends of similar sheets in overlapping relation;

Figure 3 is a top plan view of a surfacing sheet embodying the invention;

Figure 4 is a cross-sectional view taken on lines 4—4 of Figure 2; and

Figure 5 is a cross-sectional view taken on lines 5—5 of Figure 3.

Referring specifically to the drawing in which like numerals have been used to designate like parts, numeral 1 designates a surfacing sheet or unit formed from a sheet metal blank and provided with double rows of corrugations 2 on opposite longitudinal sides of the sheet or unit. These corrugations are preferably parallel and the elevations of each corrugated portion on each

side are spaced by an intervening valley 3. There is between the corrugated side edges an intermediate or body portion and the elevations between the body portion and the side corrugations next adjacent thereto are gradually inclined to provide gradient portions between the highest and lowest elevations. The sheets or units are adapted to be laid side by side with a longitudinal side corrugation of one sheet adapted to overlap a similarly formed edge of another sheet. The ends of two sheets are also laid in overlapping relation somewhat as illustrated in Figure 2 and in order to interrupt the forces of capillary attraction between the overlapping ends, one end of the sheet, preferably the overlapping end, may advantageously be provided with a transverse means typified by a beading 4 stamped from the body portion of the sheet or unit. This beading provides on the exposed face of the sheet or unit a raised portion 5 and on the underside a groove or recess 6. When the sheets are laid in overlapping relation they are adapted to be secured by a nailing means 10 which may be projected through the sheet anywhere along the beading or the side corrugations. In the instant case the nailing means is shown projected through an enlarged portion 7 formed at spaced intervals on the beaded portion. This beading may extend entirely across the body portion of the sheets or units, that is, extending continuously across the sides of the corrugations and across the intervening portions between the corrugations, or the beading may merely be extended across the flat portions of the unit or sheet between the side corrugations 2 and the intermediate corrugations 3. Thin and flexible sheets are ordinarily wavy and in surfacing covering where these are laid in overlapping relation there is a tendency for the overlapping edges to be wavy and as a result there are recesses formed between the contacting surfaces of the overlapping ends of the sheet. These recesses permit access of water between the sheets and while it is interrupted in passing above the beaded portion, it is preferable to exclude the water from even passing to the beaded portion and to have the edge portion of the overlying sheet in close contact with the underlying sheet. To accomplish this the bottom end 9 of the unit which is to overlap with the upper edge of another unit may preferably be flexed beneath the horizontal plane of the sheet or unit thereby providing a flexed end which when the unit or sheet is nailed in place will have the flexed end resiliently held in contact with the surface of the underlying sheet, thereby eliminating a wavy edge and also eliminating the formation of recesses between the contacting sheets that would give access to water.

In the embodiment illustrated there is shown

one transverse beaded portion but obviously more than one may be provided if desired and this may be of any desired contour, the essential feature being that an air space is provided between the overlapping sheets to interrupt the forces of capillary attraction, thereby excluding ingress of water beneath the surface covering.

While I have illustrated and described one preferred embodiment of the surfacing unit for the purpose of typifying the invention, it will be understood that various changes in details of construction may be made without departing from the spirit of the invention.

I claim:

1. A relatively thin flexible metal sheet having one marginal side edge provided with a corrugation and one marginal end flexed downwardly below the surface plane of the underside of the sheet whereby said marginal end is adapted to be sufficiently resilient to conform to the irregularities of the surface to be covered, and a transverse bead adjacent the flexed end of the sheet.

2. A relatively thin flexible metal sheet having one marginal side edge provided with a corrugation and one marginal end flexed downwardly below the surface plane of the under side of sheet whereby said marginal end is adapted to be sufficiently resilient to conform to the irregularities of the surface to be covered, a transverse bead adjacent the flexed end of the sheet, and a nailing portion provided along the transverse bead.

3. In a construction member, a body portion having an intermediate part between opposite parts which are elevated into side corrugations a beading extending across the intermediate and elevated parts of the body portion into the side corrugations to provide an air space across said body portion for interrupting the forces of capillary attraction, and an edge portion flexed below the undersurface of the member.

4. In a construction member, a body portion, a corrugated portion, a gradient inclined portion extending upward from the lower plane of the member in the direction of the apex of the corrugation, a beading in said member extending transversely to the body portion and into the gradient inclined portion, and a resilient edge portion of substantial length beyond the beading transverse to the corrugated portion and flexed below the undersurface of the member and adapted to conform to the surface to be covered.

5. In a construction member, a body portion, a corrugated portion, a gradient inclined portion extending upward from the lower plane of the member in the direction of the apex of the corrugation and a resilient edge portion transverse to the corrugated portion flexed below the contacting undersurface of the member and adapted to conform to the surface to be covered.

6. In a weather surface covering comprising a plurality of flexible metal sheets each having one portion adapted to contact with the surface of the opposite end of a similar sheet and another portion, of resilient character, remote therefrom, fastening means contacting with the weather exposed part of the sheet adapted to bring the remote portion of the sheet into alignment with the contacting surface, thereby holding the sheet under tension with the surface to be covered, and means inward from the transverse edge of the sheet to interrupt the force of capillary attraction.

7. A flexible metal sheet having a portion of the bottom surface arranged in a predetermined

plane, the edge portion of said bottom surface disposed in a plane below that of the predetermined plane, and a gradually inclined portion between the said different planes, said gradually inclined portion adapted to be pressed towards the plane of the portion of a similarly constructed sheet arranged in the predetermined plane by a fastening means associated with the weather exposed surface of the sheet when in use, thereby holding the sheet under tension with the surface to be covered.

8. A relatively thin flexible metal sheet having a marginal portion flexed downwardly below the contacting surface plane of the underside of the sheet, said marginal portion being sufficiently resilient to conform to the surface to be covered and to be held in contact therewith over an area extending from the edge of the marginal portion inward under the marginal portion, and a transverse beading adjacent to but spaced a substantial distance from the marginal edge of the sheet to provide a space inward from the marginal portion for interrupting the force of capillary attraction between the contacting members.

9. In a construction member, a body portion, a corrugated side portion, a portion gradiently inclined upward from the lower plane of the member in the direction of the corrugation, a beading adjacent one end of the member extending transversely to the corrugation and into the gradient inclined portion to provide a beaded end in said member opposite to a non-beaded end, and a resilient edge portion transverse to the corrugated portion normally flexed below the undersurface of the member arranged on the beaded end of said member and extending a substantial distance below the bottom wall of the beading to provide an end sufficiently resilient to conform to the surface to be covered, below the beading, between the downwardly flexed end and said covered surface.

10. A roof covering comprising a plurality of construction members laid in overlapping courses, said construction members having a body portion, a corrugated portion adjacent each of two side edges of said member, said body portion having portions normally extending upward from the lower plane of the body portion, one end of the body portion being non-beaded, a beading adjacent the opposite end of the body portion transversely of the body portion and of the corrugated portions to provide a beaded end opposite to the non-beaded end, said beading extending across the body portion and into a portion of the body portion that is normally elevated above the lowest plane of the body to provide an enclosed air space across and below the body portion, arranged between the beaded end of the member and the surface contacting portion of the non-beaded end of an adjacent structure, and a resilient end portion of substantial length, between the beading and the extreme edge of the member, transverse to the corrugated side portion, and normally flexed below the undersurface of the member, said resilient end portion adapted to conform to the irregularities of and be in contact with the sheet below it sufficiently close to allow forces of capillary attraction to cause any liquid coming under the edge to pass upward and the said air space interrupting the forces of capillary attraction and thereby prevent further upward passage of liquid.