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L. WITTENBERG

2,178,273

SHINGLE

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Fig. 1.

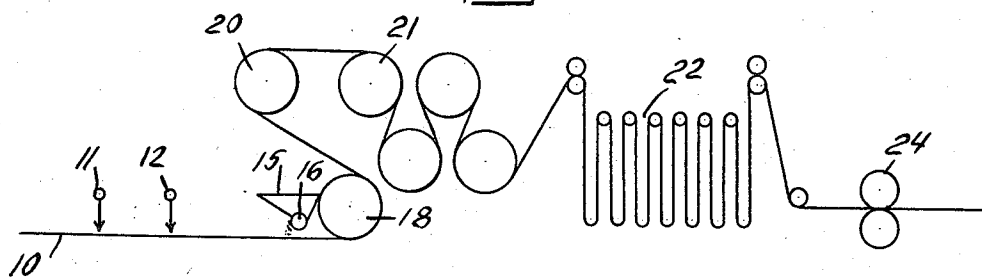


Fig. 2.

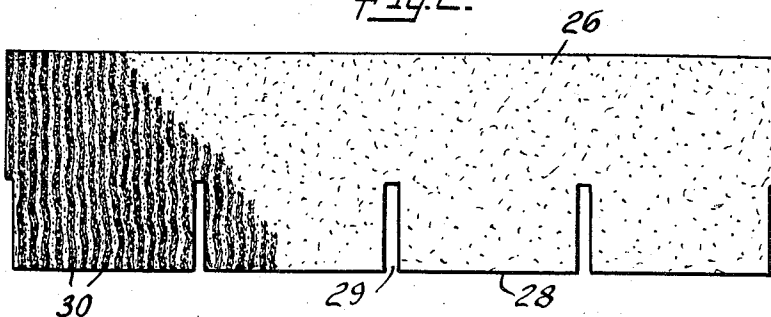


Fig. 3.

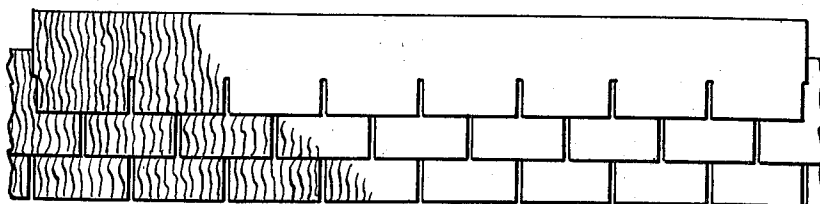


Fig. 4.

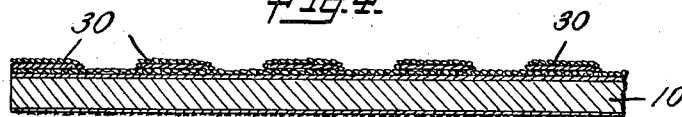
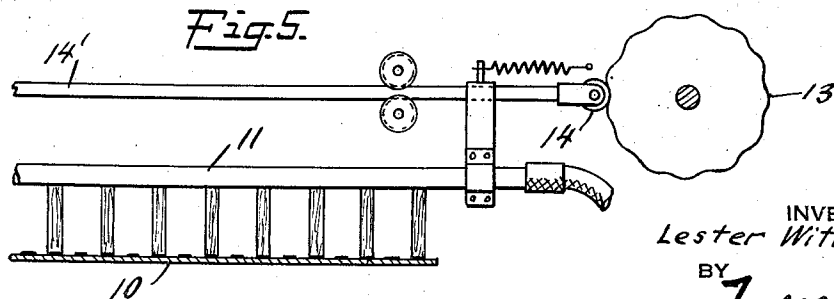


Fig. 5.



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SHINGLE

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3 Claims. (Cl. 108—7)

This invention relates to roofing and siding elements hereinafter referred to as shingles and more particularly to shingles of the felt base composition type and their manufacture.

It is an object of this invention to provide a felt base shingle having an upper surface of irregular striped appearance, such that when the shingles are laid on a roof or wall they form a pleasing ornamental effect. In accordance with the invention, narrow, closely spaced, sinuous stripes of plastic coating material, such as, for example, asphalt, are applied longitudinally to a saturated, coated, granular surfaced sheet of felt-base roofing material. Thereafter granular surfacing material of a different color from that applied to the coating layer is deposited upon the sheet and partially embedded in the overlay coating stripes. The sheet may then be cut transversely into strip or individual shingle elements, having closely spaced, transverse, irregular, wavy stripes of overlay coating and surfacing material of a different color from that of the first surfacing layer. These shingles when laid on a roof produce an irregular, ornamental, visual appearance which may simulate wood grain.

In the accompanying drawing,

Fig. 1 is a diagrammatic view illustrating apparatus which may be employed in manufacturing shingles in accordance with the present invention;

Fig. 2 is a plan view of the shingle of the invention;

Fig. 3 is a plan view on a reduced scale of a roof formed by laying the shingles of Fig. 2;

Fig. 4 is a fragmentary transverse sectional view on an enlarged scale through the shingle; and

Fig. 5 is a fragmentary elevational view of mechanism which may be employed for oscillating the coating pipes.

In Fig. 1, reference numeral 10 designates a sheet of roofing material which is preferably constituted of a felt base saturated with waterproofing material such as asphalt and having a seal-back coating layer dusted with anti-stick material, such as mica, talc dust or powdered soapstone, on the under surface of the base. A coating layer of plastic waterproofing material, such as asphalt covers the upper surface, and has a layer of granular surfacing material partially embedded therein. Such mineral-surfaced roofing is well known and requires no further description.

The sheet 10 is passed beneath apparatus for applying irregular, sinuous stripes of overlay

coating material such as asphalt, roofing pitch or other coating material to the upper surface of the sheet, which apparatus may include perforated pipes 11 and 12 mounted in any suitable manner for slight oscillation in a direction transverse to the longitudinal direction of the sheet. Suitable mechanism such as irregular shaped rotating cams 13 (see Fig. 5) engaging followers 14 on oscillatable guides 14' which support pipes 11 and 12 may be employed for oscillating the pipes and imparting an irregular, wavy contour to the streams of coating material deposited through the perforations onto the sheet. The cam for oscillating pipe 12 may be of different shape from the cam for actuating pipe 11 so that the wavy streams of coating material may be deposited upon the roofing sheet in out-of-phase relation to each other, i. e. with crests of the waves of adjacent streams out of transverse alignment, to enhance the irregular appearance of the shingles and to prevent the recurrence of a monotonous pattern when the shingles are laid. If desired the perforations of the pipes 11 and 12 may be of different widths whereby the stripes of coating material applied to the sheet may be of different widths instead of being of uniform width.

After receiving the stripes of coating material and while the latter is still soft and tacky, the sheet is fed beneath hopper 15 containing a supply of granular surfacing material of a color different from that partially embedded in the coating layer of the sheet 10. A distributor roll 16, rotating within the hopper, discharges a stream of granules onto the sheet, after which the sheet passes about reversing roll 18 which functions to partially embed the mineral granules in the plastic coating material of the stripes. The granules which fall on the portions of the sheet between the stripes, do not adhere to the sheet and fall back into the hopper 15 as the sheet passes to reversing roll 20. Thereafter the sheet may pass to a series of calender rolls 21 and thence to a looping device 22, where the sheet is given an opportunity to cool. Reference numeral 24 designates cutting rolls which cut the sheet transversely into shingle elements, for example, strip shingles having a number of shingle-simulating tabs 28 separated by slots 29, simulating the spaces between individual shingles, as illustrated in Fig. 2.

Shingle 26 shown in Fig. 2, it will be noted, is provided with transverse irregular, closely spaced, wavy, out-of-phase stripes 30 of overlay coating and surfacing material, the surfacing material

of the stripes being of a color different than that of the surfaced sheet 10. The stripes may be of the order of $\frac{1}{4}$ " wide more or less and from ten to twenty of such stripes may be applied to each shingle tab, depending on the width thereof, e. g., in the case of strip shingles having tabs 9" in width, approximately ten to twenty spaced stripes each about $\frac{1}{4}$ " wide may be applied. The shingles present a corrugated, irregular appearance which, when viewed from a distance, produce a visual effect resembling wood grain.

The shingles may be laid on the roof or wall, as illustrated in Fig. 3, with the slots of the shingles of each course staggered with respect to the slots of the underlying course. While I have described my invention in connection with strip shingles having rectangular tabs, it will be apparent that individual shingles of any desired shape may be manufactured in accordance with this invention.

Accordingly, it will be seen that I have provided a shingle having a corrugated surface of irregular appearance produced by the application of narrow, closely spaced, irregular, sinuous stripes of overlay coating and surfacing material to a coated and surfaced roofing sheet and a process of producing such shingles. The shingles when laid to form a roof or wall and viewed from a distance produce an effect simulating wood grain. The overlay stripes of coating and surfacing material impart additional weight to the shingle body and reinforce the same so that warping and curling of the shingles are inhibited.

Since certain changes may be made in my shingle without departing from the scope of this invention, it is intended that all matter contained in the above description or shown in the accompanying drawing, shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A shingle having a plurality of tabs disposed along one longitudinal edge thereof and comprising a felt base saturated with waterproofing material, a layer of plastic coating material on the upper surface of said base, a layer of granular surfacing material partially embedded in said coating layer, a plurality of closely spaced, relatively narrow stripes of plastic coating material overlying said surfacing layer and disposed at right angles to the width of the tabs and surfacing material adhering to the coating material of said stripes, the surfacing material of said stripes

being of a color different from that applied to said first coating layer whereby said stripes are of a different color from that of the remainder of the shingle, said stripes being of the order of $\frac{1}{4}$ " in width and being spaced so that each tab contains from ten to twenty stripes across the width thereof, said stripes being of irregular form and imparting to the surface of said shingle the appearance of wood-grain.

2. A flexible composition shingle adapted to be laid with other shingles to form a surface covering resembling the grained appearance of weathered wood comprising in combination a felt base saturated with waterproofing material, a layer of waterproof coating material covering the upper face of said felt base, a layer of granular surfacing material partially embedded in said layer of coating material, a plurality of closely spaced, relatively narrow stripes of waterproof coating material overlying said surfacing layer and surfacing material adhering to said stripes, said stripes being of irregular, wavy contour and extending from the upper to the lower edge of said shingle, said stripes being of the order of one-quarter inch in width and being spaced so that each nine inches of shingle width contains from ten to twenty stripes, said shingle being free of weakening indentations.

3. A flexible composition shingle adapted to be laid with other shingles to form a surface covering having the grained appearance of weathered wood comprising in combination a felt base saturated with waterproofing material, a layer of waterproof coating material on the upper surface of said felt base, a layer of surfacing material partially embedded in said layer of coating material, a multiplicity of stripes of waterproof coating material overlying the surfacing layer and surfacing material adhering to said stripes, said stripes being of irregular wavy contour and extending upwardly from the lower edge of said shingle in a generally vertical direction over the portion of said shingle to be exposed, said stripes being so spaced and of such dimensions that nine inches of shingle width contains approximately ten to twenty of said stripes, the shape and dimensions of said stripes creating an illusion and giving to said shingle an appearance resembling wood grain when the shingle is laid and viewed from a distance.

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