Aug. 26, 1941. G. RITTER 2,253,652

SHINGLE

Filed Oct. 24, 1940

Fig. 1.

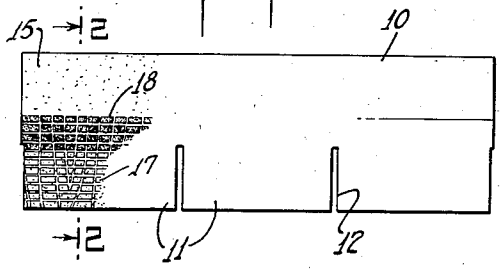


Fig. 2.

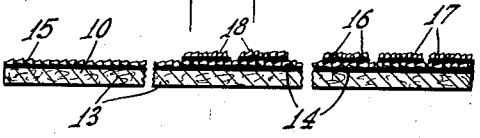


Fig. 3.

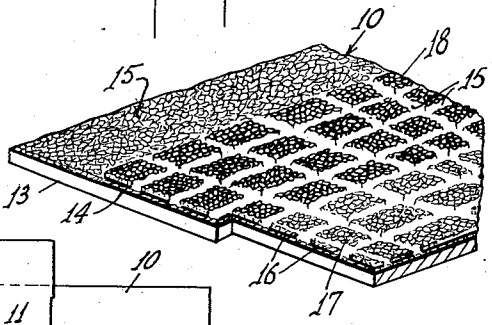


Fig. 4.

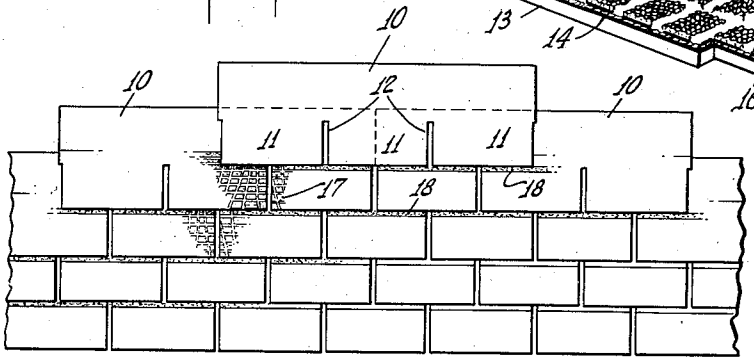


Fig. 5.

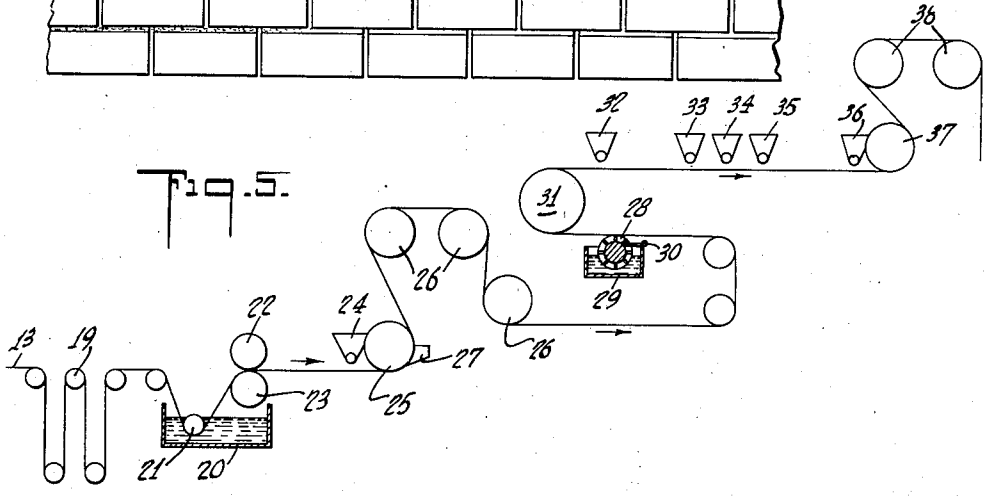
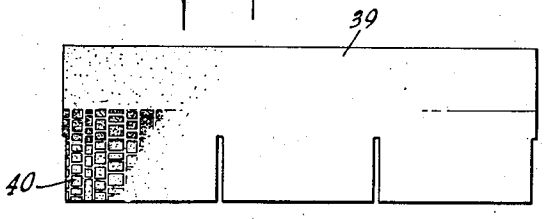


Fig. 6.



INVENTOR
GEORGE RITTER
BY
Lester Clendenin
ATTORNEY

Patented Aug. 26, 1941 2,253,652

UNITED STATES PATENT OFFICE

2,253,652

SHINGLE

George Ritter, Millington, N. J., assignor to The Ruberoid Co., New York, N. Y., a corporation of New Jersey

Application October 24, 1940, Serial No. 362,533

7 Claims. (Cl. 108—7)

This invention relates to shingles, and more particularly to shingles of the class known as asphalt shingles for use in covering the roof and sides of a building.

Asphalt shingles are commonly composed of a base of roofing felt which is saturated and coated with bituminous saturating and coating compositions, and is faced with mineral granules embedded in the coating.

While such shingles are economical and effective, they are subject to the disadvantage that when laid in overlapping courses the resultant covering has a somewhat flat, monotonous appearance, lacking the desired depth of wooden or slate shingles.

It is an object of this invention to improve the appearance of the shingle by applying or printing a rough texture, composed of discrete raised units or patches of coating composition faced with mineral granules, upon the portion of the granule faced surface that is intended to be exposed when laid.

It is a further object of the invention to increase the thickness of the exposed or butt portion of the shingle to give the covering formed of the shingles a more substantial appearance.

It is also an object of the invention to face the superimposed units or patches of coating, in certain regions or zones, with mineral granules of predominantly dark color so as to produce simulated shadow effects.

I am aware that various proposals have heretofore been made to give the butts of asphalt shingles greater thickness and a more ornamental appearance, for instance, by applying a second layer of coating and granules, and indenting therein a pattern in simulation of the grain of wood or other texture. It has also been proposed to apply the texture in the form of vertical overlay stripes.

I have found that by applying the texture in substantially parallel, spaced apart longitudinal lines of elevated units or patches a ribbed effect is secured which greatly enhances the ornamental appearance.

Other objects and advantages of the invention will appear from the following description, reference being had to the accompanying drawing, in which:

Figure 1 represents a face view of a shingle embodying the invention;

Fig. 2 represents a sectional view thereof on the line 2—2;

Fig. 3 represents a perspective view of a fragmentary portion of an end of the shingle;

Fig. 4 represents a fragmentary plan view of the shingles as laid;

Fig. 5 represents a diagrammatic view of the apparatus for making the shingles; and

Fig. 6 represents a face view of a shingle embodying a modification of the invention.

The shingle or strip 10 as shown in Figure 1 is one of conventional form having a plurality of rectangular tabs 11 separated by slots or cutouts 12. This particular form has been selected merely for the purpose of illustration as the invention is applicable to shingles of a variety of different forms.

The shingle is composed of a base 13 of felted fabric, such as roofing felt, saturated or impregnated with asphalt or other bituminous saturating composition. The base carries a coating 14 of asphalt or other bituminous coating composition which is applied over the entire face of the shingle, the application being preferably somewhat thicker on the lower or butt portion than on the upper portion. Mineral granules 15 of any desired color or mixture of colors are applied to and embedded in the coating throughout its extent.

Superimposed on and adhering to the granule faced surface of the lower portion of the shingle are a plurality of raised units or patches 16 of asphalt, or other bituminous coating composition, faced with mineral granules 17 of various mixtures of colors. These units are applied in substantially parallel lines extending lengthwise of the shingle, the lines being spaced apart widthwise of the shingle, thus giving the surface a rough, ribbed effect. The units 16 of each of several lines are preferably of irregular contour and irregularly spaced from each other in accordance with a predetermined pattern, so that the cumulative or combined effect of all of the units provides an ornamental surface simulating the grain of a weathered wooden shingle or other desired pattern. In Fig. 3, for the sake of clearness, the granules 15 have been omitted from the spaces intervening the raised units 16.

In a certain zone of the shingle the raised units or patches 16 are preferably faced with mineral granules 18 of a predominantly darker color than the granules 17. The purpose of this is that when the shingles are laid in overlapping courses at least one of the longitudinal lines of units or patches appearing directly below the butt end of the succeeding course will be faced with dark granules to produce a shadow effect. For convenience of manufacture, more than one line of units or patches may be faced

with the dark granules. In the drawing four lines are shown as so faced, but it will be noted that, as seen in Fig. 4, only one line of the dark units appears below the butts of the shingles when laid.

In the manufacture of the shingle, as shown diagrammatically in Fig. 5, the saturated sheet of roofing felt passes around a looper and cooler 19 into a receptacle 20 containing the molten coating composition and under a coating roll 21 that applies a layer of coating 14 over the entire upper surface of the sheet. It then passes between the rolls 22, 23 by which the excess coating is removed. The upper roll 22 is constructed to remove more coating at certain areas across the width of the sheet than at others so as to leave a band of greater thickness in that portion of the sheet which will constitute the lower portion of the shingle when cut. A facing of granules 15 is deposited over the entire surface of the sheet from a suitable hopper 24, while the coating is still hot. The granules are embedded in the coating by a press-roll 25. The sheet may then be carried over a system of rolls 26 to permit the coating to cool. Talc or the like may be applied to the under surface of the sheet from a receptacle 27 to prevent the sheet from sticking to the rolls.

The sheet now passes over a printing or coating roll 28 which dips in a receptacle 29 containing molten coating material, and which prints or applies the coating in units or patches 16 on the granule faced coated surface of the sheet in lines running lengthwise of the sheet and in a predetermined pattern or design. The face of the roll 28 is suitably formed, to conform to the desired grain or texture, the relief portions that apply the units or patches being arranged in lines extending circumferentially around the roll and separated from one another by relatively narrow grooves. Suitable heated doctor blades 30 may be provided to scrape the coating from the grooves or spaces between the printing portions of the roll.

After passing around a roll 31, the sheet travels under the hoppers 32, 33, 34, 35 and 36. These hoppers deposit granules of different color or of different mixtures or blends of color upon that portion of the sheet to which the raised units of coating 16 have been applied. The hopper 32 continuously deposits the granules 18 of predominantly dark color on the selected shadow zones hereinbefore described, while the hoppers 33, 34 and 35 intermittently deposit the granules 17, each deposit being preferably of a different color or blend. The excess of granules is caught in the hopper 36 and may be redeposited on the sheet. Since at this stage the units 16 of superimposed coating material are still hot, the granules deposited by these hoppers will adhere only to those units and will not adhere to the rest of the sheet. The granules 17 and 18 are embedded in the coating units 16 by the press-roll 37. The sheet may then be passed over the cooling rolls 38 and carried to a conventional shingle cutter (not shown) by which it may be cut into shingles of any desired form.

Fig. 6 represents a modification of the invention. The shingle 39 there illustrated is of the same general construction as the shingle 10 previously described except that in this instance the superimposed units 40 of coating and granules are arranged in somewhat staggered order, that is to say, out of alignment with one another in the direction of length of the shingle, instead of being disposed in substantially parallel lines in that direction.

While I have shown and described the invention applied to shingles of the kind commonly called strip-shingles, it will be understood that it may also be applied to individual shingles, whether used for roofings or sidings.

What I claim is:

1. A shingle adapted to be laid in overlapping courses comprising a felt base coated on its upper surface with bituminous coating composition faced with mineral granules, the lower portion of the shingle that is exposed when laid having superimposed on and adhering to its granule faced surface discrete units of granule faced coating disposed in spaced longitudinal lines and arranged according to a predetermined pattern.

2. A shingle adapted to be laid in overlapping courses comprising a felt base coated on its upper surface with bituminous coating faced with mineral granules, the lower portion of the shingle that is exposed when laid having superimposed on and adhering to its granule faced surface raised units of granule faced coating arranged in lines extending in the direction of length of the shingle and spaced from one another both in the direction of length and of width of the shingle, said raised units combined forming a predetermined pattern.

3. A shingle of the character described comprising a felt base coated on its entire upper surface with asphalt faced with mineral granules, the lower portion of the shingle that is exposed when laid having superimposed on and adhering thereto units of asphalt coating faced with mineral granules, said superimposed units being spaced substantially regularly from one another widthwise of the shingle and being spaced irregularly from each other lengthwise thereof.

4. A shingle of the character described comprising a felt base coated on its entire surface with asphalt faced with mineral granules, the coating on the lower portion of the shingle that is exposed when laid being thicker than on the upper portion, said lower portion having superimposed thereon and adhering thereto units of asphalt coating faced with mineral granules, which units are spaced substantially uniformly from one another widthwise of the shingle and irregularly from one another lengthwise thereof in accordance with a predetermined pattern.

5. A shingle of the character described comprising a felt base coated on its upper surface with bituminous coating faced with mineral granules, the lower portion of the shingle that is exposed when laid having superimposed thereon and adhering thereto units of coating faced with mineral granules spaced apart from one another and arranged in lines extending lengthwise of the shingle, the mineral granules on the units of a line immediately below the butt end of an overlapping shingle being of darker color than on the rest of the units.

6. A shingle of the character described comprising a felt base coated on its upper surface with bituminous coating faced with mineral granules, the lower portion of the shingle that is exposed when laid having superimposed thereon and adhering thereto units of coating faced with mineral granules spaced apart from one another and arranged in lines extending lengthwise of the shingle, the mineral granules on the units in a zone in the immediate vicinity of the

butt end of an overlapping shingle being of predominantly darker color than on the rest of the units.

7. A shingle of the character described comprising a felt base coated on its entire upper surface with a continuous coating of bituminous composition faced with mineral granules, the coating being thicker on the lower portion of said surface than on its upper portion, said thicker lower portion having an ornamentation of patches of granule faced coating of irregular contour adherent to its surface and disposed thereon in substantially parallel relatively closely spaced lines extending in the general direction of the length of the shingle.

GEORGE RITTER.