March 5, 1963 L. J. NEWTON ETAL 3,079,729

SHINGLES

Filed April 11, 1955 2 Sheets-Sheet 1

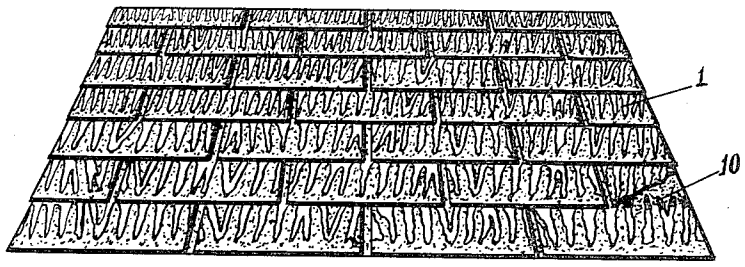


Fig 1

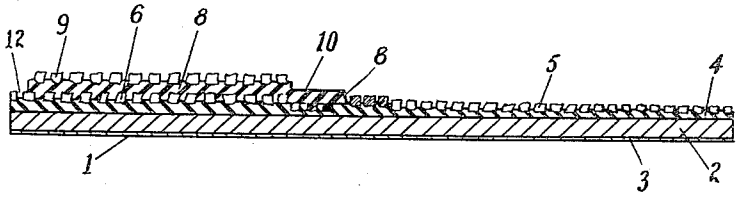


Fig 2

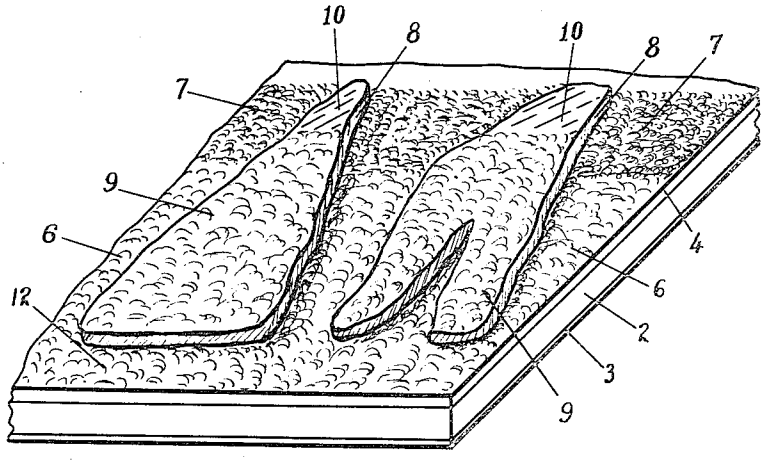


Fig 5

INVENTORS
Leslie J. Newton
James R. Oldfield
PATENT ATTORNEYS

Hetherstonhaugh & Co.

March 5, 1963 L. J. NEWTON ETAL 3,079,729

SHINGLES

Filed April 11, 1955 2 Sheets-Sheet 2

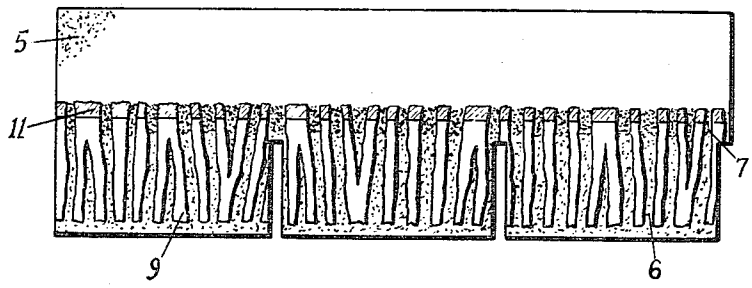


Fig. 4.

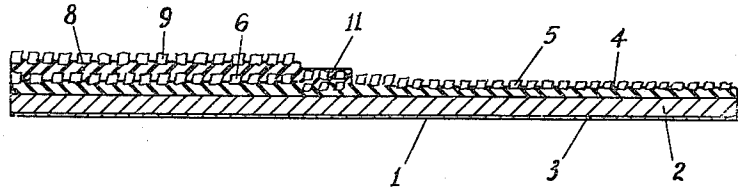


Fig. 3.

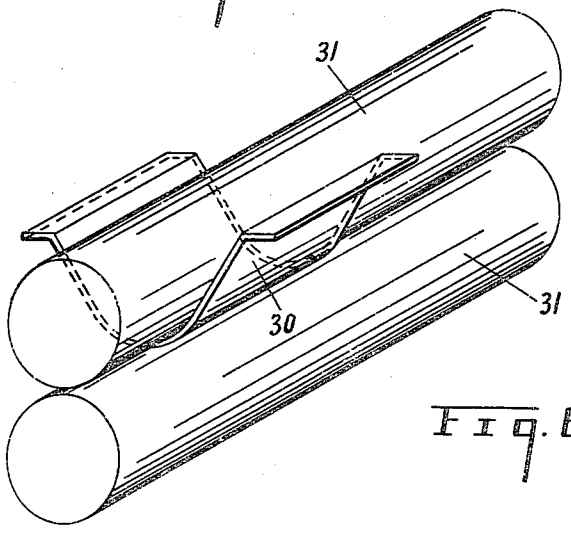


Fig. 6.

INVENTORS
Leslie J. Newton.
James R. Oldfield.
PATENT ATTORNEYS
Hetherstonhaugh & Co

United States Patent Office

3,079,729

Patented Mar. 5, 1963

3,079,729

SHINGLES

Leslie J. Newton, Baie d'Urfe, Quebec, and James R. Oldfield, Valois, Quebec, Canada, assignors to Building Products Limited, Montreal, Quebec, Canada

Filed Apr. 11, 1955, Ser. No. 500,532
3 Claims. (Cl. 50—243)

This invention relates to improvements in shingles and the object is to provide a shingle which is thicker at the exposed surface and which combines a built up shadow effect with a degree of self sealing with the butt portion of the overlapping shingle of the next course above.

According to this invention, a base material such as roofing felt, is surfaced with asphalt and granules and having superimposed asphalt and granules to form a desired pattern in stepped thickness to produce the massive appearance of a shingle of heavier weight, the overlay granules of the pattern being pressed into the asphalt coating with a hot roll to bring the asphalt to the surface on that portion of the pattern which extends above the butt line of the overlapping shingle to provide an adhesive surface to which the upper shingle will seal or adhere by the action of the weather and its own weight.

By this method of surfacing the base material it is possible to preserve the pattern effect of the contrasting granules directly up to the butt line of the next overlapping shingle without the overlay granules tending to act as a support between the overlapping shingles, while at the same time, preserving the appearance of the shingle having a thicker butt at this point and ensuring a high degree of selfseal between them by the built up weight of the butt edge bearing down on the exposed asphalt pattern which will in time by the natural warmth of the sun and surrounding air promote sticking of the asphalt to the overlapping shingle.

Referring to the drawings—

FIG. 1 is a pictorial representation of a portion of roof covered with shingles of the type hereinafter described.

FIG. 2 is a cross section of a shingle showing the manner in which the layers of asphalt and shingles are built up.

FIG. 3 is a cross section similar to FIG. 2 but showing a modified form of build up of the shingle.

FIG. 4 is an enlarged view of a shingle showing in greater detail the layer shadow effect and the self sealing area.

FIG. 5 is an enlarged partial perspective view of a shingle showing the build up of the pattern effect and the burnt and exposed asphalt sections.

FIG. 6 is a perspective view showing the method of fitting shims between the coating rolls to graduate the thickness of the asphalt on the shingle.

Referring to the drawings, the shingle 1 is built up on an asphalt or bituminous saturated felt sheet 2 of suitable weight for the type of shingle being manufactured. The back of the sheet 2 is suitably coated and surfaced at 3 with fine sand, fine talc or other material to prevent it sticking to other surfaces during the process of manufacture and packaging of the shingles.

The weather face of the felt sheet 2 is coated with a layer of asphalt 4 whose thickness is graduated by means of shims 30 inserted between the asphalt coating rolls 31 in the manner shown in FIG. 6 of the drawings, the layers of asphalt on the exposed portion of the shingle being thicker than that covered by the overlying shingle, the difference in thickness being the thickness of the shim 30. A layer of relatively small uncoloured granules 5 are laid on the upper thin layer of asphalt while a layer of heavier granules 6 are laid on the lower and thicker layer of asphalt. This layer of granules 6 can be divided into two

or more longitudinal layers, the upper layer 7 which will be adjacent the butt edge of the shingles of the course immediately above will be darker in colour than the granules in the longitudinal layers below. This darker colour constituting a shadow band under the butt of the shingle above and therefore emphasizing the massiveness of that shingle butt. The granules 6 are spread over the whole lower area of the shingle 1 and provide the background on which the desired pattern is applied.

In some instances it may be found to be of greater advantage to have the granules 5 and 6 of the same size, laid on either a uniform thickness of asphalt or a graduated thickness of asphalt depending upon the cross section of shingle required.

The pattern is now applied to the lower portion of the shingle by first applying a patterned coating of asphalt 8 on top of the granules 6 and then surfacing the asphalt 8 with a layer of granules 9. These granules 9 may be of contrasting colours and laid on the asphalt 8 in a specific manner to bring out the features of the desired pattern effect wanted against the background effect of the coloured granules 6 and the shadow effect of their upper layer 7.

In FIG. 2 of the drawings the granules 9 extend upwards on the patterned asphalt 8 to a line coinciding with the butt edge of the shingle in the next course above leaving the asphalt 8 exposed at 10 on which the shingle above lies. This exposed asphalt 10 provides a sealing base which will, with the weight of the shingle resting on it and through the action of the weather, spread on the granules 6 to provide self sealing of the shingles. The exposed asphalt surface 10 may be surfaced with a thin layer of softer asphalt in order to promote adhesion of the overlying shingle at a much reduced surrounding-air temperature.

In FIG. 3 the granules 9 are laid upwards over the whole extent of the patterned asphalt 8 and a narrow band 11 is burnt to expose the asphalt 8 equivalent to the exposed asphalt 10 of FIG. 2 except that in this case the asphalt base is loaded with granules which will prevent the shingle above from sinking too deep into the asphalt 8 while still providing all the self-sealing features of the assembly.

As shown in the drawings, the patterned asphalt 8 and granules 9 may not always reach the lower edge of the shingle. If desired, the granules 6 along this edge, as indicated at 12, may be of a contrasting colour to the adjacent granules 9 to bring out a shadow effect which will enhance the thicker appearance of the exposed portion of the shingle.

With a shingle of the type as above described and illustrated all the advantages of shingles of much heavier construction are obtained. The saving in weight obtained by the stepped construction as above set forth such as the variation in thickness of the asphalt layers and the graduated size of the granules, is very considerable while preserving the qualities required to withstand hard wear and weathering effect normally expected from a heavier shingle. Also, the considerable surfaces of asphalt to asphalt bond between overlapping shingles provides a high degree of weather seal along all exposed edges without sacrifice of granular surface.

What we claim is:

1. A shingle comprising a base having a first layer of asphalt covering one entire surface thereof, said surface comprising exposed and unexposed areas, granules partially embedded within the first layer of asphalt throughout said exposed and unexposed areas, a second layer of asphalt disposed on said exposed area in longitudinal strips in a predetermined pattern, said strips forming grooved passageways therebetween, granules partially embedded within the second layer of asphalt, a portion of each of

said longitudinal strips adjacent said unexposed area having asphalt exposed over the entire area to form a discontinuous sealing strip whereby when the shingles are arranged in overlying relation with the discontinuous sealing strip in engagement with the undersurface of the adjacent shingle, the grooved passageways between the longitudinal strips extend beneath the underside of the adjacent shingle so as to form paths for the escape of moisture from the unexposed area of the shingle.

2. A shingle according to claim 1 wherein said discontinuous sealing strip comprises a softer asphalt coating on the longitudinal strips.

3. A shingle according to claim 1 wherein said longitudinal strips are only partially covered with granules to form the sealing strip on a portion of said strips adjacent said unexposed area.

References Cited in the file of this patent

UNITED STATES PATENTS

1,340,347	Rahr	May 18, 1920
1,340,348	Rahr	May 18, 1920
1,403,392	Davis	Jan. 10, 1922
1,593,096	Munro	July 20, 1926
1,782,535	Kirschbraun	Nov. 25, 1930
1,802,032	Overburg	Apr. 21, 1931
2,058,578	Eckert	Oct. 27, 1936
2,142,181	Croce	Jan. 3, 1939
2,253,652	Ritter	Aug. 26, 1941
2,538,206	Mabie et al.	Jan. 16, 1951

FOREIGN PATENTS

473,676	Canada	May 15, 1951