Feb. 16, 1937. O. A. HEPPES ET AL 2,071,229

ROOFING OR LIKE ELEMENT

Original Filed May 20, 1931

Fig. 1.

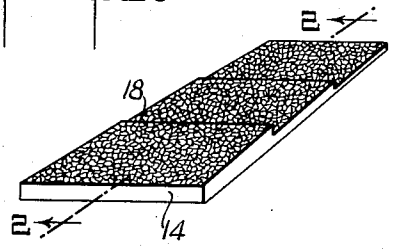


Fig. 2.

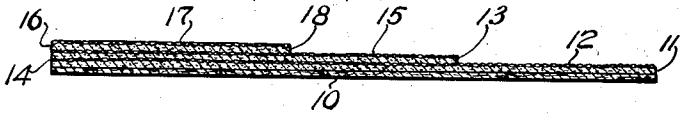


Fig. 3.

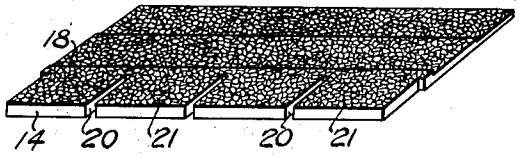
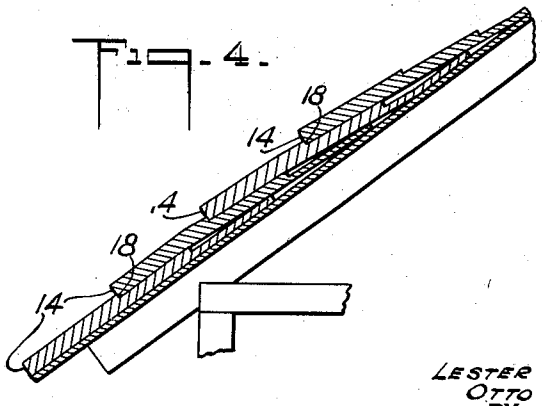


Fig. 4.



INVENTOR
LESTER KIRSCHBRAUN.
OTTO A. HEPPES.
BY
Samuel Stearnow
ATTORNEY

Patented Feb. 16, 1937 2,071,229

UNITED STATES PATENT OFFICE

2,071,229

ROOFING OR LIKE ELEMENT

Otto A. Heppes, La Grange, Ill., and Lester Kirschbraun, New York, N. Y., assignors to The Patent and Licensing Corporation, New York, N. Y., a corporation of Massachusetts

Original application May 20, 1931, Serial No. 538,772. Patent No. 1,989,554, dated January 29, 1935. Divided and this application January 28, 1935, Serial No. 3,854

4 Claims. (Cl. 108—7)

This application is a division of our copending application Serial No. 538,772, filed May 20, 1931, which, in turn, was a continuation in part of our application Serial No. 320,682 filed November 20, 1928 (Patent No. 1,807,918), the latter in turn being a division of application Serial No. 48,840, filed August 7, 1925 (Patent No. 1,722,702).

The invention relates to asphalt shingles adapted to be laid with others of similar construction in overlapping courses and serving as protecting or covering elements for the roof or side wall of a building. Such shingles usually comprise a fibrous base or foundation saturated with asphalt or equivalent waterproofing material, coated on one or both faces with an adhesive layer of asphalt. In the coating on the upper face of the shingle is partially embedded a surface layer of crushed slate, stone, granite or like material having ornamental, wear-resisting and fireproofing characteristics.

Since such shingles are of thin construction they present a monotonous or flat appearance when laid on a roof in overlapping courses. Moreover, because of the inherent flexibility of such shingles, they are some times subject to curling, and their butt edges are liable to be raised by the wind, allowing rain to beat in under them so that the appearance and waterproofing qualities of the roof covering are impaired. Hence, a primary object of the present invention is to provide an asphalt or prepared shingle of a thick butt end construction which will impart an appearance of substantial solidity or thickness to a roof or side wall or other exposed surface when laid, and which will not be raised by the action of the elements.

A further object of the invention is to provide a roofing element of a type which will promote accurate laying of the same on a roof so that unskilled labor can be employed.

A roofing element embodying the present invention is of stepped or variable thickness construction, the butt end portion being of the greatest thickness, and the upper end portion of least thickness. Between these areas of greatest and least thickness, there may be one or more intermediate areas of intermediate thickness, some of these areas of differing thickness being defined by more or less pronounced shoulders. According to the invention a roofing element such as a single shingle or side wall unit comprises a base layer of suitable felt saturated with a water-repellent compound such as certain kinds of asphalt, pitch or the like. The upper face of the saturated unit is coated with a layer of waterproofing material such as "blown" or oxidized asphalt which, by reason of its tough and rubbery composition, as well as its relatively high melting point, forms an effective waterproofing layer, covering the entire upper face of the roofing element. A layer of grit is embedded in this coating while the latter is still hot and sticky. Upon this layer of oxidized asphalt with grit embedded therein, one or more additional layers are imposed, each successive layer extending from the butt edge of the unit to a height less than that of the underlying layer. Thus the shingle is thickest over an area adjacent to the butt edge, the thinnest portion of the shingle being over an area adjacent to the head or top edge. Between these areas of maximum and minimum thickness, there may be one or more intermediate areas forming successive steps and separated by more or less distinct shoulders.

For a more complete understanding of the invention reference may be had to the disclosure thereof in the description which follows and on the drawing, of which,—

Figure 1 shows in perspective a shingle or unit embodying the invention.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 is a perspective view of a strip shingle embodying the invention.

Figure 4 is a fragmentary sectional view of a roof or side wall showing how the elements illustrated in Figure 1 may be laid.

The formation of a roofing elements embodying the invention is best illustrated in Figure 2 which shows a saturated sheet 10 of roofing felt or similar material on which a layer 11 of oxidized asphalt or equivalent waterproofing material extends over the entire upper face. Partially embedded in the layer 11 is a layer 12 of grit or other suitable granular material. A second layer 13 of asphalt or the like may be deposited over the layers 11 and 12, this layer 13 extending from the butt edge 14 of the roofing element part of the distance to the head of the shingle, leaving a portion of the layer 12 of grit exposed. A second grit layer 15 is partially embedded in the layer 13 and is substantially coextensive therewith. A third layer 16 of waterproofing material may be deposited on the layer 15, the layer 16 extending from the butt edge 14 of the roofing element a lesser distance toward the head of the shingle than the layers 13 and 15. A surface layer 17 of grit is partially embedded in the layer 16. Thus the area covered by the layer 17, adjacent to the butt edge 14 of the shingle, represents the portion of greatest thickness. The area

represented by the exposed portion of the layer 12, adjacent to the head of the shingle, represents the portion of least thickness. As shown in Figure 2, there may be an intermediate area between these two portions which represents a portion of intermediate thickness. By the application of a larger number of successively shorter layers, however, there may be two or more portions of graded intermediate thickness between the portion of greatest thickness and that of least thickness.

Between the portion of greatest thickness, represented by the layer 17, and the adjacent portion of intermediate thickness, there may be a well defined shoulder 18 which, as indicated in Figures 1 and 3, may extend parallel to the butt edge 14. In the case of strip shingles such as are illustrated in Figure 3, this shoulder 18 may be approximately in line with the upper ends of the slots 20 which define shingle-simulating tabs 21 along the lower portion of the strip shingle. The figure shows the shoulder 18 as located slightly above the upper ends of the slots 20. The shoulder 18 may serve as a definite guide or abutment to receive the butt edges 14 of the roofing elements in the course next above when the shingles are laid upon a roof or side wall. Thus each course may be easily and accurately located without requiring the exercise of the judgment and care required for correct visual aligning with reference marks. As shown in Figure 4, the butt edges 14 of each course of units may be set directly against the shoulder 18 of the course below so that the correct laying of the elements is practically assured.

The provision of at least three layers of coating asphalt and grit, such as are illustrated in Figure 2, ensures a butt edge 14 of sufficient thickness to present a substantial appearance even when a portion of the butt edge is hidden by the shoulder 18. Thus the roofing element herein described provides not only for definitely correct laying even by unskilled labor, but also does so without losing the substantial appearance which results from relatively thick exposed butt edges.

As disclosed in our application resulting in Patent 1,722,702, filed August 7, 1925, and our other copending applications herein referred to, the sheet may be severed longitudinally after the second coating is applied. The resultant structure is one, therefore, wherein the lower marginal edges of the second layers of coating and grit terminate at the butt edge of the element without covering said edge whereby to provide an unsealed butt edge for the element.

We claim:

1. An individual shingle unit adapted to be laid with other similar units in overlapping courses, comprising a waterproofed fibrous foundation, a coating of asphalt over the entire area of one face of said unit, a layer of grit partially embedded in said coating, a second narrower layer of asphalt coating overlying the said layer of grit, a second layer of grit partially embedded in said second layer of coating, the upper marginal edge of said second layers of coating and grit terminating short of the first named coating but above the line marking the overlap of units of the next succeeding course, the lower marginal edge of said second layers of coating and grit terminating at the butt edge without covering the said edge whereby to provide an unsealed butt edge for the unit.

2. An individual shingle unit adapted to be laid with other similar units in overlapping courses, comprising a waterproofed fibrous foundation, a coating of asphalt over the entire area of one face of said unit, a layer of grit partially embedded in said coating, a second narrower layer of asphalt coating overlying the said layer of grit, a second layer of grit partially embedded in said second layer of coating, the upper marginal edge of said second layers of coating and grit terminating short of the first named coating but approaching the upper marginal edge of the unit sufficiently to be covered by units of the next succeeding course, the lower marginal edge of said second layers of coating and grit terminating at the butt edge without covering the said edge whereby to provide an unsealed butt edge for the unit.

3. A shingle element adapted to be laid with other similar elements in overlapping courses, comprising a waterproofed fibrous foundation, a coating of asphalt over the entire area of one face of said element, a layer of grit partially embedded in said coating, a second narrower layer of asphalt coating overlying the said layer of grit, a second layer of grit partially embedded in said second layer of coating, the upper marginal edge of said second layers of coating and grit terminating short of the first named coating but above the line marking the overlap of elements of the next succeeding course, the lower marginal edge of said second layers of coating and grit terminating at the butt edge of the element without covering said edge whereby to provide an unsealed butt edge for the element.

4. A shingle element adapted to be laid with other similar elements in overlapping courses, comprising a waterproofed fibrous foundation, a coating of asphalt over the entire area of the face of said element to be exposed, a layer of grit partially embedded in said coating, a second narrower layer of asphalt coating of substantially uniform thickness overlying the said layer of grit on the face of said element to be exposed, a second layer of grit partially embedded in said second layer of coating, the upper marginal edge of said second layers of coating and grit terminating short of the first named coating but above the line marking the overlap of elements of the next succeeding course, the lower marginal edge of said second layers of coating and grit terminating at the butt edge without covering the said butt edge, whereby to provide an unsealed butt edge, the bottom face of said element being free from said second asphalt coating.

OTTO A. HEPPES.
LESTER KIRSCHBRAUN.