July 6, 1948. H. ABRAHAM 2,444,623

SHINGLE

Filed Nov. 27, 1945

Fig. 1.

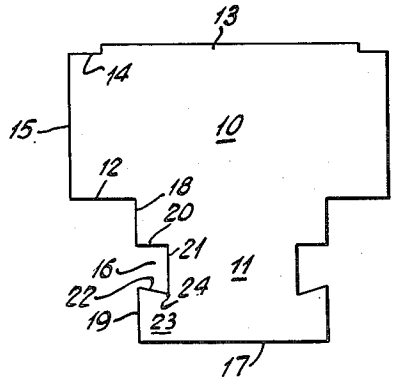
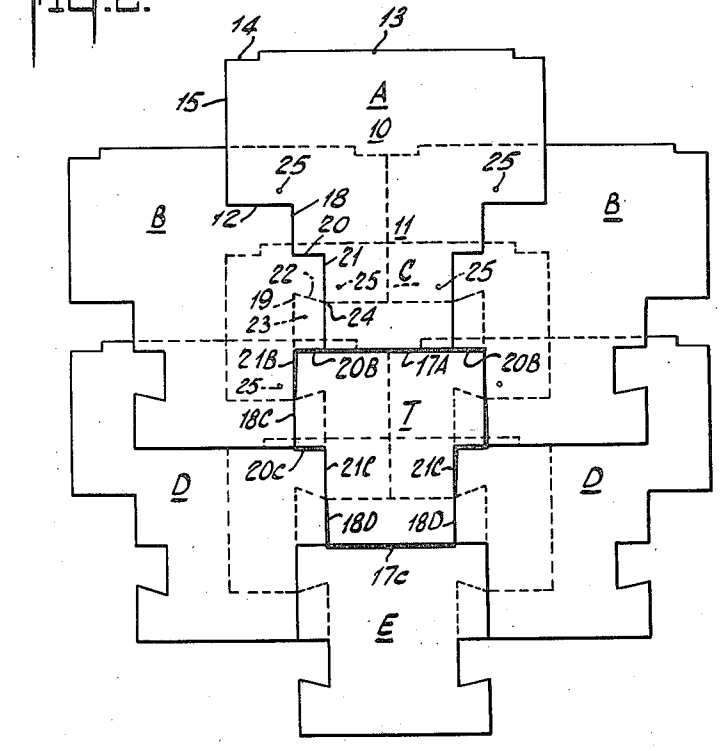


Fig. 2.



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Patented July 6, 1948

2,444,623

UNITED STATES PATENT OFFICE

2,444,623

SHINGLE

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Application November 27, 1945, Serial No. 631,023

3 Claims. (Cl. 108—7)

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This invention relates to shingles made from sheets of roofing felt impregnated and coated with asphalt or other suitable bituminous substances, and usually faced on the weather surface with particles of mineral matter.

More specifically, the invention pertains to certain improvements in flexible shingles of the type that lock together to form T-shaped patterns when laid on a roof.

Shingles of that type are disclosed in my Patent No. 2,050,218 of August 4, 1936. While those shingles are economical and eminently suitable for re-roofing previously shingled roofs, they are not entirely satisfactory for new construction work because of the fact that they produce a coverage of only a single layer or thickness of material at certain portions of their exposed areas.

The primary object of the present invention is to provide improved shingles of that type which when laid on a roof will produce a covering having at least two layers or thicknesses of roofing material throughout the entire extent of the roof. With the use of my improved shingles danger of leakage at any part of the roof is practically eliminated.

Another object is to provide shingles of the T-shaped exposure type that have a relatively large area of exposure in relation to the total shingle area, and are thus economical in material to effect the desired result of providing at least a double coverage of roofing material at all points of the roof.

The invention will appear from the following description thereof, reference being had to the accompanying drawings, in which:

Figure 1 is a plan view of the improved shingle, and

Fig. 2 is a plan view of an assembly of several shingles as laid in courses.

The shingle has a rectangular head 10 and a rectangular butt 11 extending downward centrally from the lower edge 12 of the head. An extension 13 may be formed along the upper edge 14 of the head and terminating short of the vertical side edges 15. The butt is of the same height as the head, without the extension 13, but narrower in width. That is the height of the butt between edges 17 and 12 is the same as that of the head between edges 12 and 14 both measured vertically.

The butt has a notch 16 in each side substantially midway between the lower edge 17 of the butt and the lower edge 12 of the head. The portion of the butt above the notch is indicated

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by the numeral 18 while that below the notch by the numeral 19. Each notch is defined by an upper horizontal edge 20, an inner vertical edge 21, and a lower edge 22. The butt has a locking tab 23 at each of its lower corners, which tabs are partly defined by the edges 22, the latter being preferably inclined as shown to form a crotch 24 with edge 21.

The vertical distance from the crotch or low point of the notch to the edge 17 of the butt is substantially equal to the vertical length of the edges 18 and 21, respectively, each being approximately one-third of the total length or height of the butt 11, however, within the proportions stated the edges 21 may be slightly longer than the edges 18 so as to lower the point of the crotches somewhat and thus compensate for the thickness of material of the underlying shingles that are engaged by the locking tabs 23. The width of the butt, at its widest portions, that is the portions 18 or 19, is three-fifths of the width of the head while its width at its narrowest portion, between the inner edges 21 of the notches, is two-fifths the width of the head.

The shingles are laid in overlapping courses with the tabs 23 of those of each course inserted under the edges 18 of the butts of the shingles of the next lower course and with the crotches 24 engaged in the corners between the head and butt of the shingles of said lower courses. Each shingle is secured to the roof by two nails 25, one driven through the head adjacent each of said corners in position to be covered by the butts of adjacent shingles of the next upper course.

Shingles of the shape and laid in the manner described have their butts locked together and form T-shaped exposed patterns in staggered arrangement throughout the roof. On referring to Fig. 2 it will be seen that each pattern, as for instance the pattern designated by the reference character T, is defined by lapped and locked portions of the butts of shingles of four successive courses. The top of pattern T is defined in major part by the lower edge 17A of shingle A and in part by the edges 20B of two adjacent shingles B of the next lower course. The side edges are defined in part by the edges 21B of shingles B, 18C, 20C and 21C of shingle C of the third lower course, and 18D of the shingles D of the fourth lower course. The bottom edge of the pattern is defined by the lower edge 17C of the butt of shingle C. It will also be observed that portions of the shingles of four courses, for example courses B, C, D and E, underlie the exposure pattern T throughout its entire area and

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thus provide a covering having at least two layers of thicknesses of roofing material at all points, there being three layers at the areas where the tabs 23 of shingles of one course lock with butt portions of shingles of other courses.

The shingles are economical in material to effect the desired result because of the fact that the exposure area of each shingle, that is the area which lies within the contour of the T-shaped pattern when the shingle is laid, constitutes a large portion of the entire area of the shingle. With shingles of the form of this invention, having overall dimensions of twenty inches in width and eighteen or eighteen and one-half inches in height, the exposed area amounts to about 42% to 43½% of the total area and it will require only one hundred and twenty shingles to cover a "square," that is an area of one hundred square feet of roof surface, with a covering of at least two layers or thicknesses of roofing material throughout.

The herein described relationship and proportions of parts are critical in order to obtain the result of double coverage with T-shaped exposure patterns, however the size of the shingle may be varied, and minor modifications in its form may be made within the scope of the invention.

What I claim is:

1. A roofing shingle of the type described comprising a rectangular head and a rectangular butt extending downward centrally from the lower edge of the head, the head and butt being of substantially the same vertical height, the butt having a notch in each side substantially midway between the lower edges of the head and butt, each notch having a vertical inner edge of the height of which is substantially equal to one-third of the total height of the butt, said notches forming a locking tab at each of the lower corners of the butt, said shingle being adapted to be laid in courses with like shingles, with the shingles of the several courses locked together, to provide a covering of at least two layers of material throughout and having T-shaped exposure patterns.

2. A roofing shingle of the type described comprising a rectangular head and a rectangular butt extending downward centrally from the lower edge of the head, the butt being of substantially

the same vertical height as the head but narrower in width, the butt having a notch in each side substantially midway between the lower edges of the head and butt, each notch having a vertical inner edge the height of which is substantially equal to one-third of the total height of the butt, the width of the butt between said vertical notch edges being two-fifths of the width of the head and its width at its widest parts being three-fifths of the width of the head, said notches forming a locking tab at each of the lower corners of the butt, said shingle being adapted to be laid in courses with like shingles, with shingles of the several courses locked together, to provide a covering of at least two layers of material throughout and having T-shaped exposure patterns.

3. A roofing shingle of the type described comprising a rectangular head and a rectangular butt extending downward centrally from the head, the head and butt being each of substantially the same vertical height, the butt having a notch in each side substantially midway between the lower edges of the head and butt, each notch having a vertical inner edge and an inclined lower edge forming a crotch with said inner edge, the distance from the crotch to the lower edge of the butt being substantially one-third of the total height of the butt both measured vertically, said shingles being adapted to be laid in courses with like shingles, with the crotch of the notches of each shingle of one course engaged in the corners between the head and butt of two adjacent shingles of the next lower course to lock the shingles together and to provide a covering of at least two layers of material throughout having T-shaped exposure patterns.

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