May 31, 1932. T. D. MILLER 1,860,899

SHINGLE

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FIG. 1.

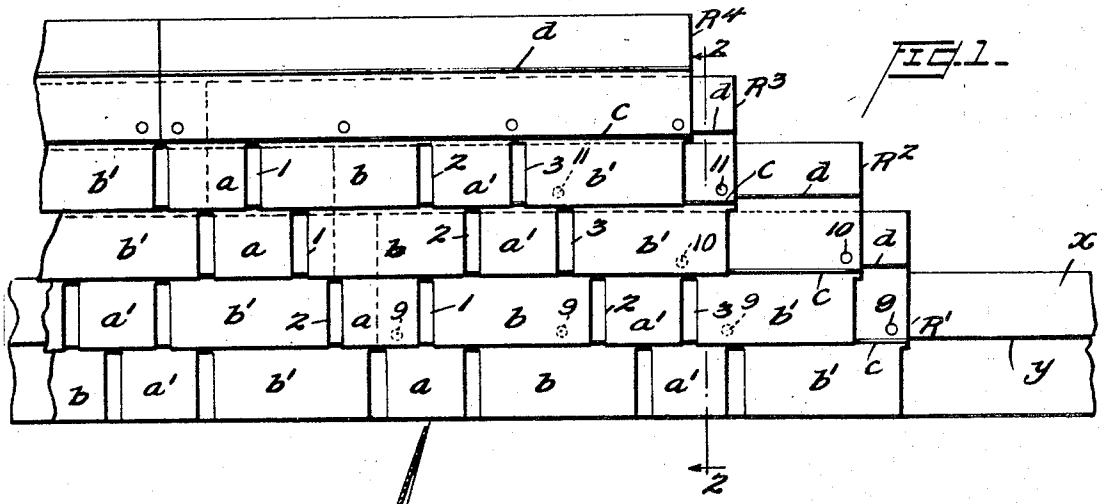

FIG. 2.

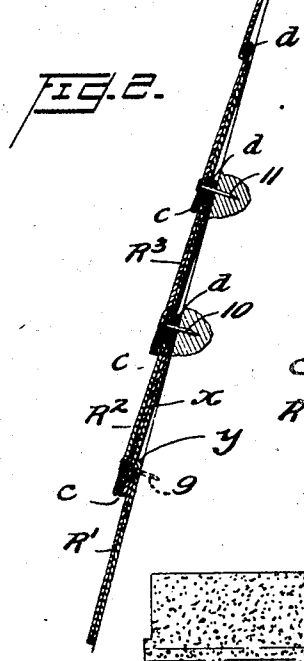

FIG. 3.

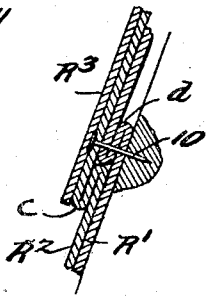

FIG. 4.

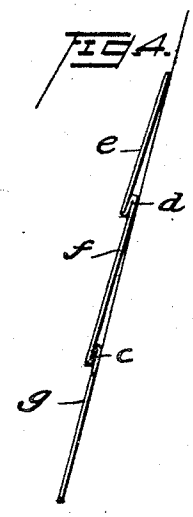

FIG. 5.

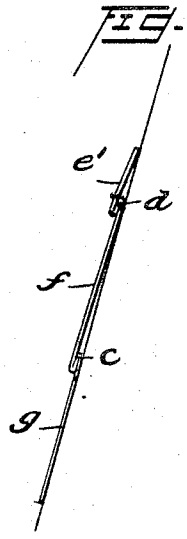

FIG. 6.

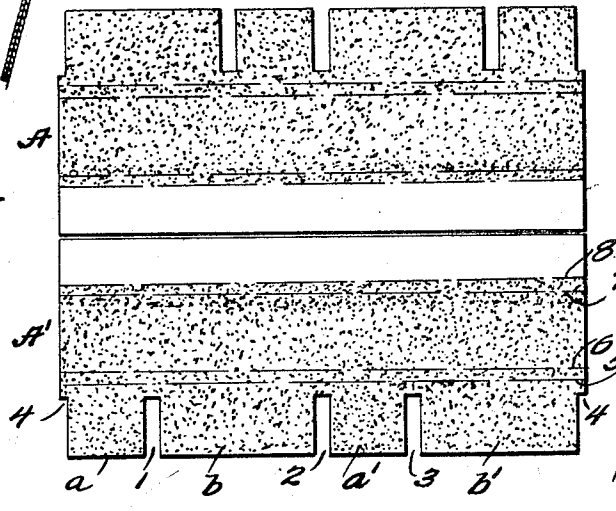

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FIG. 7.

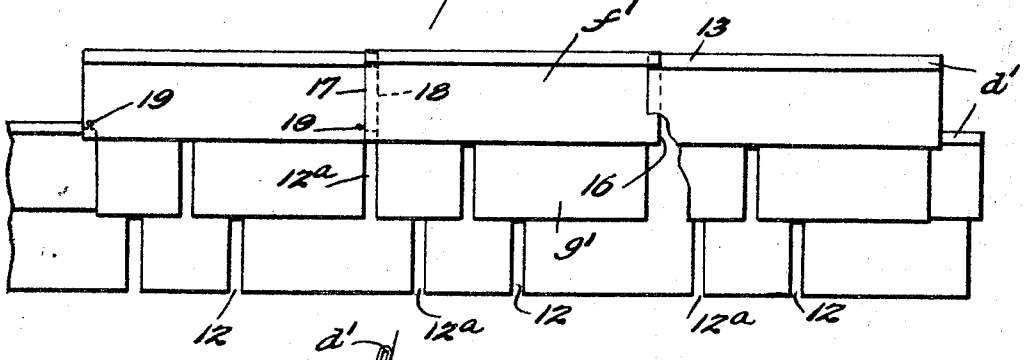


FIG. 8.

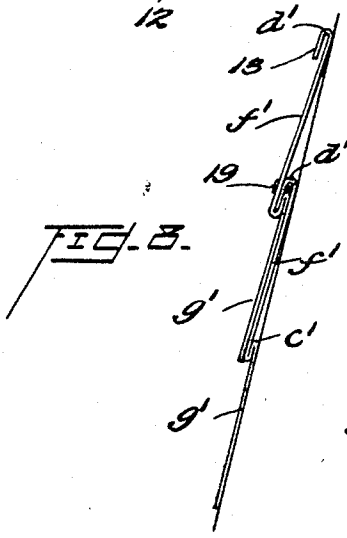


FIG. 9.

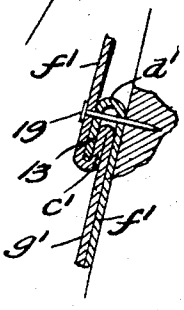


FIG. 10.

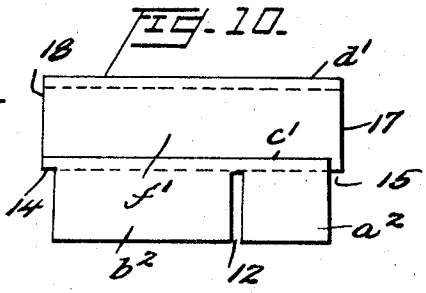
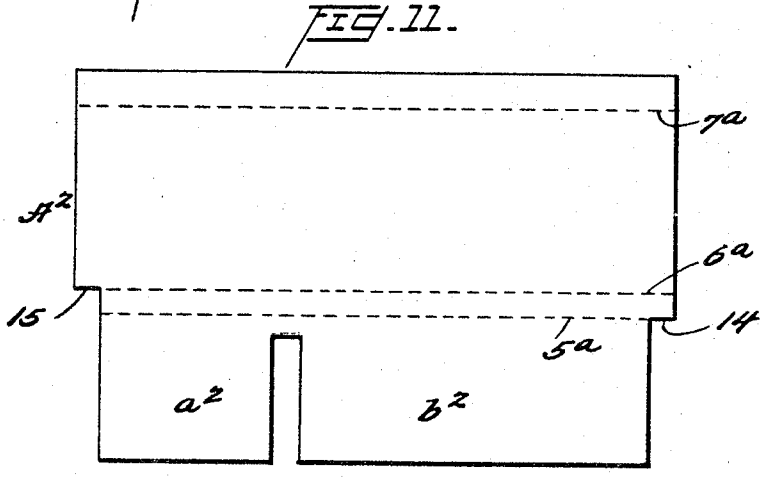


FIG. 11.



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1,860,899

UNITED STATES PATENT OFFICE

THOMAS DENTON MILLER, OF CLARKSVILLE, MARYLAND

SHINGLE

Application filed May 15, 1928. Serial No. 278,021.

This invention relates to strip shingles, preferably made of composition material, and it also relates to means for assembling and securing the shingles upon a roof to form a roof covering.

The shingle, in its preferred form, comprises a strip of suitable material having longitudinally extending reverse bends, spaced apart from one another and dividing the shingle into upper, intermediate and lower panels which lie in different planes. The lower panel is transversely slotted, forming alternate narrow and wide tabs, the narrow tabs being of equal width and the wide tabs being of equal width, and the latter being approximately twice the width of the former. Each shingle has a narrow tab at one end and a wide tab at the other, so that when the shingles are arranged end to end in a row, the wide and narrow tabs will alternate throughout the row. The lower panels are also notched at their edges so that when two shingles are arranged end to end, the notches will form a slot equal in width to one of the slots in the lower panel of the shingle.

In arranging the shingles upon a roof, the lower reverse folds in the shingles of one row abut against the upper reverse folds in the shingles of the next lower row, and nails are driven through the intermediate panels of the upper row and through the upper reverse folds of the lower row, and the lower panels of a third row cover these nails and the nail-holes. In assembling the shingles upon a roof, the shingles in alternate rows have their narrow tabs arranged opposite slots in the immediately lower rows, and this arrangement brings the other slots and tabs into such relation as to give the appearance of random spacing of the tabs, which is desirable from an architectural standpoint.

I have also shown a modified form of shingle divided into two panels by a reverse bend and having a single fold at its upper end through which the nails are driven, this latter form having certain other features of construction which will be hereinafter more particularly referred to.

In the accompanying drawings,

Fig. 1 is a plan view of part of a roof covering composed of an assemblage of shingles made in accordance with my invention, in its preferred form;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a detail view showing, on a larger scale than Fig. 2, the manner of nailing the shingles to the roof;

Fig. 4 is a side view of one of the shingles;

Fig. 5 is a similar view of a modified form of shingle in which the uppermost panel is shortened;

Fig. 6 is a plan view of two of the shingle blanks, illustrating the manner in which they may be cut from a single strip;

Fig. 7 is an assemblage of shingles of a different form from those shown in the previous figures;

Fig. 8 is an end view of Fig. 7, looking from right to left, on a larger scale;

Fig. 9 is a detail sectional view showing the interlocking folds of two shingles;

Fig. 10 is a rear or underside view of one of the shingles; and,

Fig. 11 is a plan view of one of the blanks from which the shingles shown in Figs. 7 to 11 are made.

Referring to Figs. 1 to 6 of the drawings, and first to Fig. 6 thereof, A and A′ indicate shingle blanks which may be cut from a single strip of flexible material by a machine adapted to slot the strip at its opposite sides and divide the same longitudinally in the center. Each blank is formed with transverse slots 1, 2, and 3, spaced so as to form relatively short tabs a and a', of equal width, and tabs b and b', of equal width, the latter tabs being approximately twice the width of the narrower tabs, and the narrow and wide tabs being alternately arranged. Also, it is to be noted, that a narrow tab occurs at one side of the shingle and a wide tab at the other. The ends of the blank are notched, as shown at 4, so that when two blanks are arranged end to end, the notches in the blanks will form slots between the blanks similar to the slots 1, 2 and 3. Each blank has parallel longitudinal creases 5 and 6, close to one another and near the slots, and similar creases 7 and 8, spaced from the creases 5 and 6. In forming the shingle, the blank is bent along the

creased lines 5 and 6 to form a reverse bend c, and it is also bent along the creases 7 and 8 to form a reverse bend d, Fig. 4. These bends divide the shingle into upper, intermediate and lower panels, e, f, and g, respectively, these panels lying in different planes, and the intermediate panels being preferably longer than the lower panels by the width of a reverse bend.

In laying the shingles upon a roof, a strip of roofing material w, having a reverse bend y, is fastened to the roof near its lower edge, and a row of shingles R^1 (Fig. 2) is laid over this strip, with the reverse bends c in the shingles below and against the reverse bend y in the strip. Nails 9 are driven through the intermediate panels of the shingles R^1 immediately above their lower reverse bends c, and through the reverse bend in the strip w. Another row of shingles, R^2, is then laid upon the row R^1 with the reverse folds c in the shingles of this second row lying against the lower edge of the reverse folds d in the lower row, and nails 10 are driven through the intermediate panels f of the row R^2 and through the reverse bends or folds d of the row R^1. The lower panels g of the row R^2 cover the nails 9, which are driven through intermediate panels of the row R^1. After the row R^2 has been laid, the row R^3 is applied, the reverse folds c in this row being arranged below and against the reverse folds d in the row R^2. Nails 11 are then driven through the central panels of the row R^3. The lower panels of row R^3 cover the nails 10 in the row R^2. The next row R^4 is laid in a similar manner and its lower panels cover the nails 11. Thus, each nail passes through the central panel of one shingle, above its lower reverse fold, and through the upper reverse fold of a lower shingle and the nail and nail-hole are covered by the lower panel of an upper shingle.

The shingles are designed particularly for giving the effect of random spacing when assembled to form a roof covering. This is brought about by providing the alternate relatively wide and narrow tabs in each shingle and by laying the shingles so that the slots 1 and 3, in alternate rows, such as rows R^2 and R^4, will lie centrally opposite the narrow tabs a and a' of the immediately lower rows, such as R^1 and R^3. With this arrangement, each slot 2, in alternate rows, as R^2 and R^4, will be opposite a wide tab b' or b in a lower row, and the slots 2 and 3 in intermediate rows, such as R^3, will be opposite wide tabs in a lower row, such as R^2. Also, the joints between the shingles of each row will be covered by the shingles in the next upper row and there will be a double thickness of material in the roof covering below each slot.

It will be evident from inspection of Fig. 1, that the effect of random spacing between the shingles is produced upon a roof by arranging the shingles in the manner described. It is not essential that the panel e (Fig. 4) shall be of the same width as the lower panels, and, if desired, this panel may be made shorter, as shown at e' in Fig. 5.

The shingle shown in Figs. 7 to 10, inclusive, has but two panels and is made from a blank A^2 of the form shown in Fig. 11. This blank has a single transverse notch 12, which divides the lower panel of the shingle into a short tab a^2 and a tab b^2, of approximately twice the length of the tab a^2. The blank is creased along the lines 5^a and 6^a, so that it may be folded to produce a reverse bend c', and it is creased along the line 7^a so that it may be folded to produce a single bend or fold d'. The upper panel f' is wider than the lower panel g', so that when the shingles are laid upon a roof, the single fold d', at the upper edge of the lower shingle, will extend far enough above the reverse bend c' of an overlying shingle to receive a nail 19, which is driven through the upper panel of the upper shingle above this reverse bend and through the single fold at the upper end of the lower shingle. The end 13 of the fold d' of a lower shingle lies within the fold c' of the next upper shingle.

The part of the blank which forms the lower panel is shorter than the part which forms the upper. Thus, in Fig. 11, the blank is cut inward along the crease line 5^a, at one end, a distance equal to the full width of the slot 12, as shown at 14, and the end of the tab b^2 is cut off up to said crease line. The blank is cut inward at its opposite end along the crease line 6^a, and the end of the tab a^2 is cut off up to the latter crease line. When the shingle is formed by folding the blank along the crease lines, as shown by the rear or underside view, in Fig. 10, it will be seen that the end of the tab a^2 is cut off through the bend c', while the end of the tab b^2 is cut off only up to the bend, the uncut portion of the bend being indicated at 16.

In laying the shingles on a roof, the end of the tab a^2 of each shingle in a row will abut against the end 16 of the reverse bend of an adjacent shingle in the row, and a slot 12^a, of the same width as the slot 12, will be left between the shingles. The end 17 of the upper panel of each shingle will overlap the end 18 of an adjacent shingle; but it will be noted that the reverse bend in one shingle does not overlap the reverse bend in an adjacent shingle, because the tabs a^2 are cut off through the reverse bends.

What I claim is:

1. A strip shingle having reverse folds dividing the shingle into upper, lower and intermediate panels, the lower panel having transverse slots dividing said latter panel into alternate wide and narrow tabs, the narrow tabs being of equal width and the wide tabs being of equal width.

2. A strip shingle having reverse folds dividing the shingle into upper, lower and intermediate panels, the lower panel having transverse slots dividing said latter panel into alternate wide and narrow tabs, the narrow tabs being of equal width and the wide tabs being of equal width and approximately twice the width of the narrow tabs.

3. A strip shingle having reverse bends dividing the shingle into upper, lower and intermediate panels, the lower panel having transverse slots dividing said panel into alternate wide and narrow tabs, the narrow tabs being of equal width and the wide tabs being of equal width, a narrow tab being at one end of the shingle and a wide tab being at the opposite end thereof.

4. A roof covering comprising a plurality of rows of shingles, each shingle having upper and lower reverse folds dividing the shingle into upper, lower and intermediate panels, the intermediate panels being longer than the lower panels, the upper reverse folds in the shingles of a lower row being above and engaged by the lower reverse folds in the shingles of the next higher row, nails extending through the intermediate panels of said next higher row and through the upper reverse folds of the lower row, and the lower panels of a second higher row covering said nails.

5. A roof covering comprising a plurality of rows of strip shingles, each shingle having longitudinally extending reverse folds dividing it into upper, intermediate and lower panels, the lower panel of each shingle having transverse slots dividing it into alternate narrow and wide tabs, the latter being approximately twice the width of the former, the shingles in alternate rows having their narrow tabs opposite slots in the immediately lower rows.

6. A roof covering comprising a plurality of rows of shingles, each shingle having a reverse fold dividing the shingle into an upper and a lower panel, the upper panel being longer than the lower panel, and each shingle having a fold at the upper margin of the upper panel, the latter folds in the shingles in a lower row engaging and projecting above the reverse folds in the shingles of the next higher row, and nails extending through the upper panels of the latter row above their reverse folds and through the upper folds in the lower row.

7. A strip shingle having a fold dividing the shingle into upper and lower panels, the lower panel having a transverse slot dividing said latter panel into wide and narrow tabs, the narrow tab being approximately half the width of the wide tab.

8. A roof covering comprising a plurality of rows of shingles, each shingle having a reverse fold dividing it into two panels the upper one of which is longer vertically than the lower one and has a bend at its upper end, said upper bends of the shingles in a lower row engaging the reverse bends in the shingles of an overlying row, and nails extending through said upper bends of the shingles in the lower row, said nails being positioned above the reverse folds of the shingles of said overlying row.

9. A strip shingle having transverse slots dividing its exposed portion into alternate wide and narrow tabs, the narrow tabs being of equal width and the wide tabs being of equal width and approximately twice the width of the narrow tabs.

10. A strip shingle having transverse slots dividing its exposed portion into alternate wide and narrow tabs, the narrow tabs being of equal width and the wide tabs being of equal width, a narrow tab being at one end of the shingle and a wide tab being at the opposite end thereof.

In testimony whereof I hereunto affix my signature.

THOMAS DENTON MILLER.