

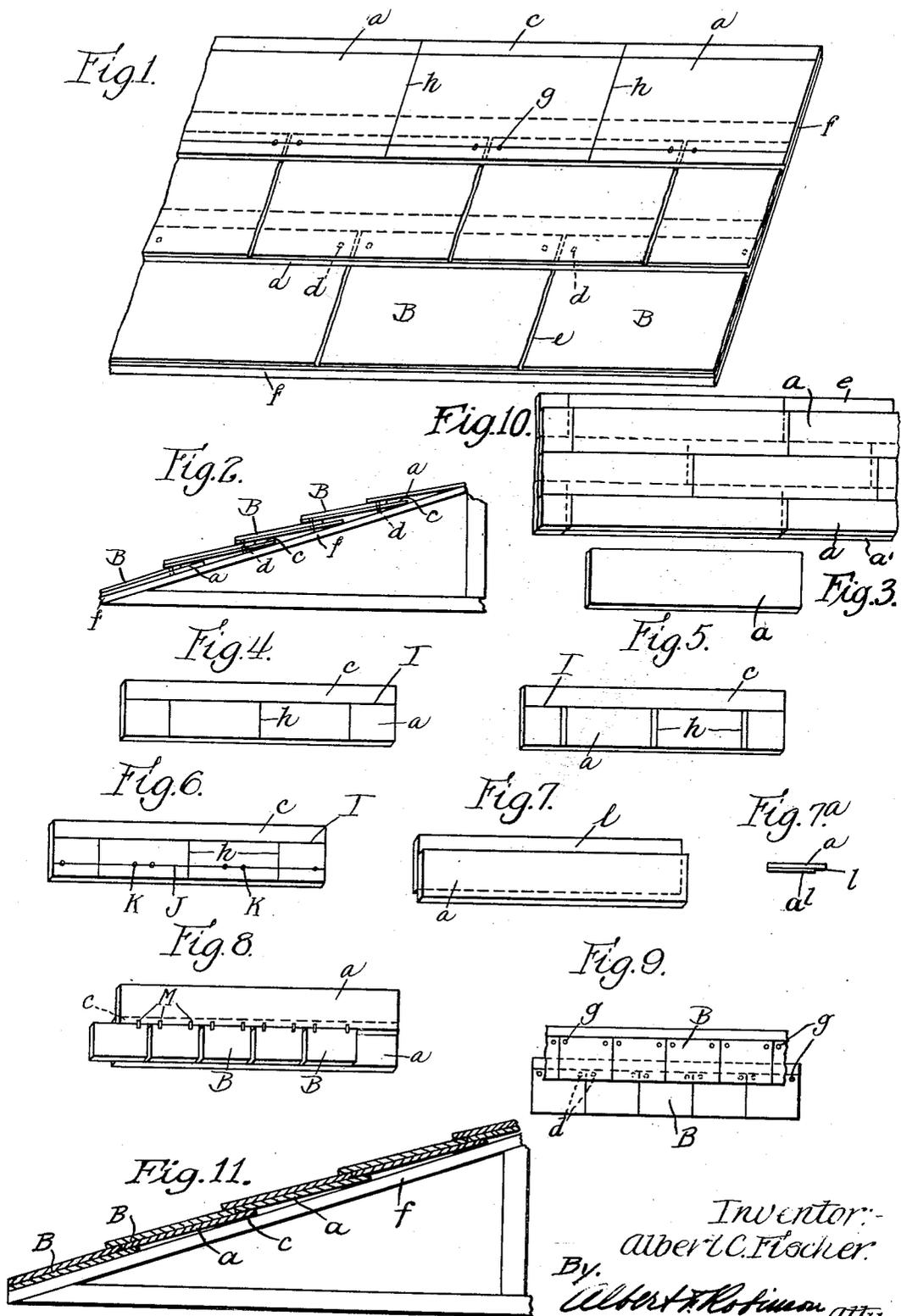
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CONSTRUCTIONAL MATERIAL

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# UNITED STATES PATENT OFFICE

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## CONSTRUCTION MATERIAL

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This invention relates to roofing elements and roof covering, and particularly to devices or means associated with some element of the roof covering for use in facilitating the accurate and speedy, as well as economical, laying of the shingle elements.

Heretofore, it has been the practice in laying shingles to chalk mark horizontal lines on a roof to facilitate the laying of shingles in a straight even row. This was done by applying chalk to a string that was drawn tight from one side of the roof to the other and held thereby two men or fastened at its opposite end and then allowing the cord to strike against the roofing or surface upon which the shingles were to be applied so as to give a horizontal line. After this the string was removed and the shingles laid. No means, whatever, was provided for spacing the shingles and this spacing had to be estimated by the men applying the shingles. This all involved time, labor, material and was not always accurate.

The object of my invention is to provide marking means or devices on a foundation layer of waterproofing felt which may advantageously be applied between the roof deck and the roofing elements. The marking means or devices may be pressed, scored, raised or otherwise marked upon the foundation layer, horizontally and vertically, in the form of any desired pattern-chart to serve as a guiding means, whereby workmen, whether highly skilled or of limited experience can instantly and accurately align and space the shingles, slate, tile and the like, that is to be used in making up the weather exposed finishing surface of the roof.

Figure 1 is a plan view of a roof section embodying the present invention;

Figure 2 is a view in cross-section of a roofing structure, showing one method of overlapping the roofing elements;

Figure 3 illustrates a plain foundation to which the roofing elements may be applied;

Figure 4 illustrates the face of the foundation strip marked with a pattern-chart;

Figure 5 illustrates the face of the foundation strip marked with another pattern-chart;

Figure 6 illustrates the foundation sheet marked to indicate places thru which nailing means are to be inserted;

Figure 7 illustrates a foundation sheet and roofing element joined in off-set relation so

that resulting units may be laid in abutting relation to form continuous, unbroken layers;

Figure 7<sup>a</sup> is a modified form of joining the foundation sheet and roofing element in off-set relation;

Figures 8 and 9 illustrate methods of abutting adjacent roofing units and nailing them in place;

Figure 10 illustrates a method of abutting adjacent roofing units and adhering them; and

Figure 11 is a view in cross section of a roofing structure showing the foundation layers overlapped to form a plane unbroken sheeting cover, and shingles superposed on the sheeting cover.

Referring specifically to the drawing, the invention is typified by a roofing structure overlaid with sheathing board *f* to which are applied an intermediate foundation element *a*, and weather exposed elements *B*. The foundation elements and weather exposed elements are nailed in place by nails *d* which are driven through nail holes *g*. As illustrated in Fig. 2, the foundation elements may intervene between adjacent courses of the weather exposed elements to cushion them, thereby preventing any tendency for them to break or grate one upon the other. In order to protect against any moisture, which might find its way between the overlapping courses, the foundation elements may advantageously extend, as at *e*, any desired extent beyond the edge of the weather surfacing elements.

These foundation elements are marked with any suitable devices for facilitating speedy laying of the weather exposed elements, and insuring accurate alignment of them on the roof. These marks may be in the form of vertical lines *h* on the face of the foundation sheet to intersect with a horizontal line *I*, thereby laying off areas on the surface between the horizontal line and one edge of the foundation element in which the roofing elements are to be laid. If the foundation element is not to extend beyond the weather exposed elements, the horizontal line *I* may be eliminated, leaving merely the vertical line. Ordinarily, weather exposed elements are preferably spaced in order to prevent buckling and also to make the line of division *e* more pronounced. For this purpose the vertical marking may be in the form (Fig. 5) of narrowly spaced double lines *h/h*. Near the lower edge of the foundation sheet

another horizontal marking J. (Fig. 6) may advantageously be provided to serve as a nailing line, and, on this line at spaced intervals, marks K may be advantageously employed to indicate the nailing position of the roof covering on the sheathing.

In modifications disclosed in Figs. 7-10 inclusive, in which the weather surfacing elements are off-set in relation to the foundation strips, adjacent foundation sheets abut or overlap to form a plane unbroken layer.

The foundation sheets may be laid in courses with overlapping or abutting edges, and then covered with rows of surfacing elements. In Fig. 7, two foundation sheets *aa'* are arranged in offset relation to provide a slab having a lap *l* adapted to mate with another slab of similar construction which is laid in abutting relation, thereby providing a double layer foundation for the surfacing elements.

Fig. 8 discloses still another modification wherein sheets may be laid in courses with overlapping edges, and then covered with rows of weather surfacing elements B fitted to lie flush with the bottom edge of an immediately underlying course and to abut the bottom edges of the next succeeding course. Thus positioned the foundation sheets and weather surfacing elements are laid by nailing means, such as staples M, by driving one prong through the surfacing elements and the other through the overlapping edges of the foundation sheets.

The surfaces of sheets *a* in these modifications may be marked the same as described and illustrated in respect to Figs. 4, 5 and 6.

The modification disclosed in Fig. 7<sup>a</sup> is especially suited as a starting strip. It differs from that disclosed in Fig. 7 only in the fact that one edge is rabbeted, leaving the other edge squared by having the edges of both members flush.

Since the surface elements are underlaid with a plane unbroken sheet covering it is unnecessary to overlap the surfacing elements themselves, although these may be also overlapped and nailed with the nailing means concealed thereunder. This result may be obtained, as illustrated in Fig. 9, by arranging the foundation sheets so that surfacing elements B will overlap the nailing margin of a previously laid course.

Fig. 10 shows a series of offset slabs, such as illustrated in Fig. 7, laid end to end and overlapping a single layer starting strip. Cement may be advantageously employed at the seams to bond the units into a unitary whole to provide a solid foundation or roof covering. The surface of this roofing covering may be left plain or marked in decorative design to simulate individual shingles.

It will be understood that the modifications above described are merely for the purpose of illustration, and that various changes in detail may be made without departing from the spirit of the invention.

I claim:

1. In a roof, the combination of a roof-deck, a plane unbroken sheeting-cover of felt or like material having previously imprinted on its upper surface suitably spaced and intersected guide-lines to form a pattern-chart whereby the laying and securing of shingles, slate or tile outer-surface finishing members is facilitated in a speedy and accurate manner to suit the various designs of roof to be effected, and fastening nails driven through the said shingles, slate or tile finishing members and the intervening pattern-chart into said roof-deck, substantially as shown and described.

2. In a roof, the combination of a roof-deck, a plane unbroken sheeting cover having previously imprinted on its upper surface suitably spaced and intersected guide-lines to form a pattern-chart whereby the laying and securing of shingles, slate or tile outer-surface finishing members is facilitated in a speedy and accurate manner to suit the various designs of roof to be effected, and fastening nails driven through the said shingles, slate or tile finishing members and the intervening pattern-chart into said roof-deck, substantially as shown and described.

3. A roofing structure comprising a plane unbroken sheeting cover having spaced vertical and horizontal guide-lines thereon to form a pattern-chart, overlapping courses of shingles attached to said sheeting cover as indicated by the pattern-chart, and fastening nails driven through the shingles to secure same to a deck.

4. A roofing structure comprising a plane unbroken sheeting cover having guide-lines thereon to form a pattern-chart, overlapping courses of shingles attached to said sheeting cover as indicated by the pattern-chart, and fastening nails driven through the shingles to secure same to a deck.

5. A roofing structure comprising a plane unbroken sheeting cover having guide-lines thereon to provide pattern-charts whereby shingles may be laid in a selected design, overlapping courses of shingles attached to said sheeting covering as indicated by the selected design, and fastening nails driven through.

Signed at Chicago, in the county of Cook and State of Illinois, this 7th day of January 1930.

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