

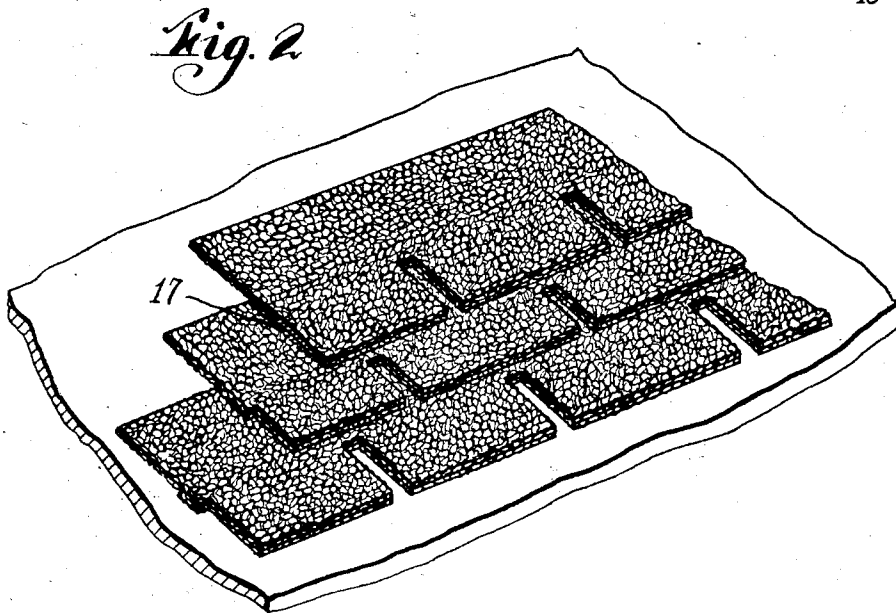
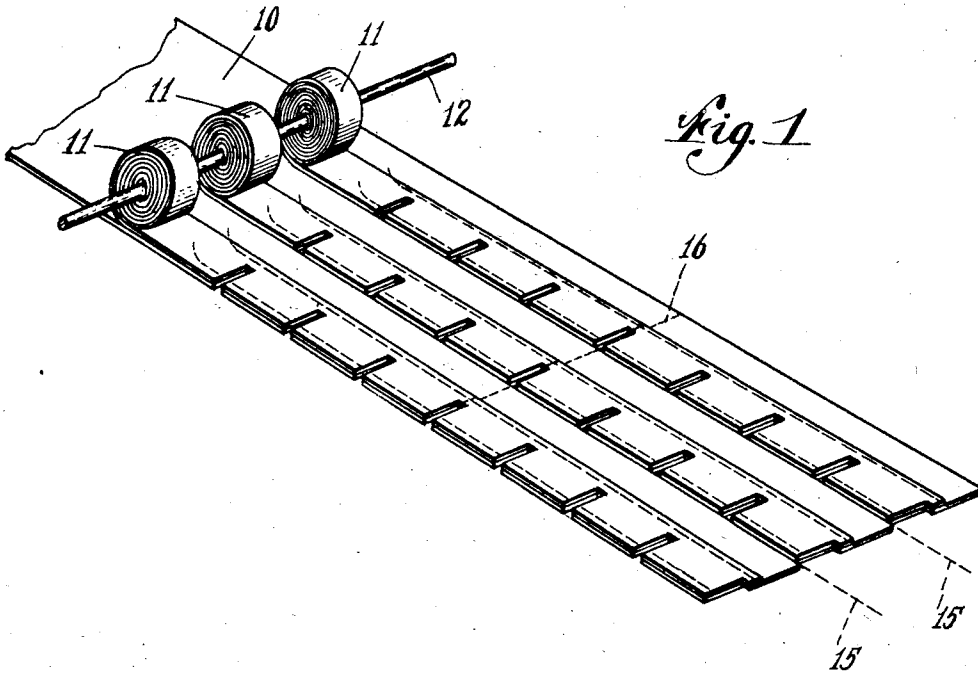
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METHOD OF MAKING ROOFING STOCK

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# UNITED STATES PATENT OFFICE

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## METHOD OF MAKING ROOFING STOCK

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This invention relates to roofing stock from which roofing elements of the asphalt impregnated type may be made. Roofing of this type is customarily made by forming on a paper-making machine a sheet of fibrous material, such as rag, asbestos or equivalent fiber, or a mixture of such fibers, this sheet being of a bibulous nature capable of taking up a considerable quantity of liquid saturant.

After the fibrous sheet has been formed and dried, it is saturated with liquefied asphalt, then coated with high melting-point asphalt which is in turn usually surfaced with granular material, such as crushed slate, brick, tile or equivalent comminuted substances, to protect the coated surface from the action of the weather, or the coated surface may be dusted with pulverized mica, chalk or the like, to prevent sticking of the elements cut from the sheet. At any stage of the process of manufacture, the elements may be cut from the sheet. Roofing elements made in this way are usually relatively thin and when laid on a roof present as a whole a flat and unsubstantial appearance. In order to improve the appearance of a roof laid with fabricated units, it has been attempted to thicken the latter, especially the butt portions thereof, so as to present comparative thick butt edges to view when laid which serve to give the roof a more substantial appearance. Thicker elements have been made in various ways, such as by sticking two or more layers of roofing felt together so that the whole element or the butt portion only would be two or more times the normal thickness. Where the adhesive properties of asphalt or cements have been depended upon to stick the layers together, considerable trouble has been experienced with the product on account of a tendency to delaminate under the action of the weather. It is an object of my invention to fasten the laminae together securely so as to make delamination practically impossible. In the manufacture of roofing elements of this type, the making of the felt sheet or stock is often carried on at a different place from that where the felt is made into roofing elements. Hence, the long sheets of felt are made up into large rolls which may be accumulated and stored if desired until used as raw material in a roofing making machine. By my invention, I may make up reinforced or laminated felt stock at the paper mill and roll it up for transfer to the roofing making mill.

Further advantages will be apparent from the disclosure of my invention as hereinafter described and as illustrated on the drawing, of which,—

Figure 1 represents in perspective a portion of a sheet of roofing felt of indefinite length, showing how reinforcing layers may be applied and secured thereto.

Figure 2 is a fragmentary view of a section of roof, showing the lapped relation of elements made from my improved roofing stock.

Referring to the drawing in detail, 10 represents a sheet of roofing base such as the felted fibrous sheet material commonly used in the manufacture of fabricated roofing. This sheet may be led from a roll of the same or may come directly from the driers of the paper-making machine on which roofing felt of this kind is customarily made. Supported in a convenient position over or under the sheet 10 are a number of rolls 11 of roofing felt similar to the material in the sheet 10, or any suitable equivalent. These may be carried on a shaft 12 on which they are preferably disposed in spaced relation in such a way that the strips from the rolls 11 may be readily applied to the sheet 10 as the latter is fed past, the strips being applied in spaced parallel relation on the surface of the sheet 10. The width of the strips 11 is preferably substantially equal to the height of the butt portion of the roofing element to be cut from the sheet since the strips 11 are intended to serve as a reinforcement or a thickening of a portion of such roofing elements and ordinarily it is desirable to apply such reinforcements to the butt portion only of strip shingles. As it is preferable to have the reinforcing pieces on the under face of the finished roofing element, (i. e., the face next to the roof when laid), the sheet 10 as shown in Figure 1 may be considered as being bottom side up. The strips 11 are spaced on the

sheet 10, the width of the spacing being preferably substantially equal to the height of the head portion of the roofing element to be cut from the sheet. Thus as shown in Figure 1, the strips are of such a width and are so spaced on the sheet 10 that the width of one strip plus the width of a space will equal the total height of a roofing element. The strips are also applied so that one of them will have an edge flush with an edge of the sheet, the strip nearest the other edge of the sheet being spaced therefrom by a space equal to that between adjacent strips. The strips 11 are secured to the sheet 10 in any preferred way. Series of fasteners may be used or each strip may be stitched with thread or wire on lines adjacent to their edges. In order to provide stock which will cut up into shingle strips having shingle-simulating tabs, series of slots may be cut through the strips and sheet, each series comprising slots disposed with their long axes transverse to the length of the sheet and one end flush with an edge of a strip. These slots are preferably cut through after the strips have been fastened or stitched to the sheet. If roofing felt is the material used in making up this stock, the portions so cut from the sheet are easily reclaimable since it is a simple matter to separate out the parts of metal cut from the sheet with the felt and to return the felt to the paper-making machine for further use.

The roofing stock thus reinforced by strips and slotted may now be made up into rolls for storage or transportation to a roofing machine in which the usual operations of saturating, coating, slating, etc., may be carried out, as desired. At any stage in the process of making roofing from this stock, according to the design of the roofing machine, the separate roofing elements may be cut from the sheet, the longitudinal lines of cut being represented in Figure 1 at 15, a transverse line being represented at 16. As will be apparent from the drawing, each longitudinal cut 15 will be made along an edge of a strip 11 and will register with an end of the slots cut through that strip, thus making the slots into open-ended recesses extending from an edge of a partially reinforced roofing strip.

A slightly different form of roofing stock may be prepared according to this invention by cutting longitudinal lines of slots in the sheet 10, then applying a strip 11 over each line of slots, one edge of each strip substantially registering with an end of the slots it covers. The strips may be secured by fasteners or by stitching of any desired kind. The finished strip shingles made from this kind of stock will have tabs defined by grooves having a depth of substantially one thickness of stock instead of by slots cut through both thicknesses of material as in the form illustrated, since in this form the

reinforcing piece which backs the butt portion of the element is not slotted at all.

Figure 2 shows a number of finished roofing elements which have been protectively coated all over their surfaces and edges with impervious blown asphalt and crushed slate or equivalent materials. The reinforcing piece, backing the butt portion of the upper strip shingle, is shown at 17 on the broken-away end. It is to be understood that the elements may be finished in any desired manner, the finishing processes per se not being a part of this invention.

This method of preparing stock for reinforced or thick butt strip shingles provides a convenient way of supplying the roofing machines whereby the handling of the felt material up to the time when it is to be saturated is done in the mill where it is made, and the small pieces cut therefrom in making slots to define shingle-simulating tabs are recovered where the material therein can be used again.

Having thus described an embodiment of my invention, it will be apparent to those skilled in the art that many changes and modifications may be made therein without departing from the spirit and scope thereof as defined by the appended claims.

I claim:

1. The method of making roofing stock, which comprises applying to a sheet of roofing felt of indefinite length a plurality of spaced parallel strips of felt extended lengthwise of the sheet, and securing each of said strips to said sheet by two lines of fasteners entering both the sheet and the strips at points adjacent to the respective edges of the strips.

2. The method of making roofing stock, which comprises applying to a sheet of roofing base a plurality of spaced parallel strips of roofing material, securing each of said strips to said sheet by two lines of stitching extending along the strip adjacent to the respective edges thereof, and cutting series of slots through the strips and sheet, the slots in each series having an end substantially flush with an edge of a strip.

3. The method of making roofing stock, which comprises applying to a sheet of roofing felt of indefinite length a plurality of strips of felt of a width substantially equal to the height of the butt portion of the roofing elements to be cut from the sheet, said strips being applied in parallel relation and spaced by distances substantially equal to the height of the head portion of said elements, and securing said strips to said sheet.

4. Roofing stock comprising a sheet of roofing felt, a plurality of strips of roofing felt, each having a width substantially equal to the height of the butt portion of a roofing element to be cut from the sheet, said strips being secured to the sheet in parallel

relation and spaced by distances substantially equal to the height of the head portion of a roofing element to be cut from the sheet, and stitching securing the strips to the sheet.

5 5. Roofing stock comprising a sheet of roofing felt, a plurality of spaced parallel strips of roofing felt secured to a face of the sheet, and stitching securing the strips to the sheet, each strip having a slot there-  
10 through and through the sheet, said slots extending in a direction transverse with respect to the length of the strips, each slot having one end substantially flush with an edge of a strip.

15 6. The method of making roofing stock which comprises applying to a sheet of roofing felt a separate narrower strip of similar felt so that an edge of the strip is flush with an edge of the sheet, securing said narrow  
20 strip to said sheet to form a permanent laminated structure, notching the lower edges of the strip and sheet, respectively, to provide shingle simulating tabs; saturating the thus formed laminated structure, coating the same  
25 and finally applying comminuted grit to a surface thereof and then subdividing the continuous laminated assemblage to provide roofing units of the desired size with a thick-  
30 ened butt portion and sealed edges.

In testimony whereof I have affixed my signature.

FREDERICK C. OVERBURY.

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