March 19, 1935. N. P. HARSHBERGER 1,994,643

ROOF COVERING AND METHOD OF FORMING SAME

Filed May 31, 1929 2 Sheets-Sheet 1

Fig. 1

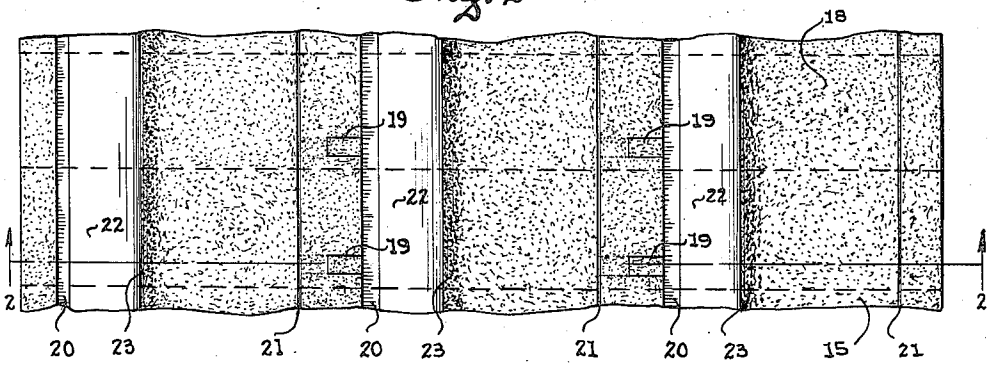


Fig. 2

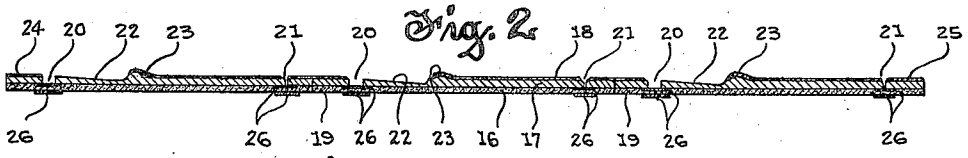


Fig. 3

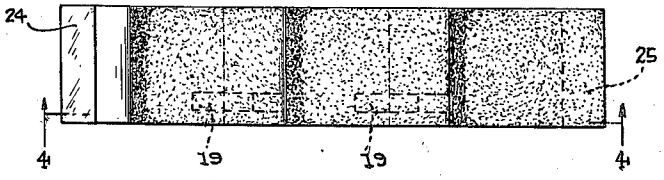


Fig. 5

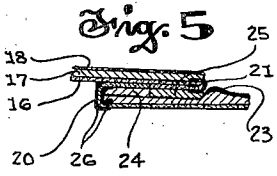


Fig. 4

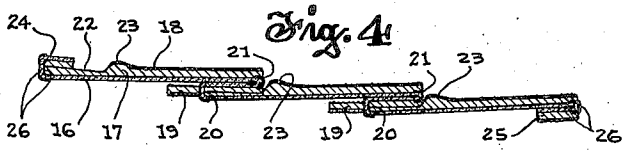


Fig. 6

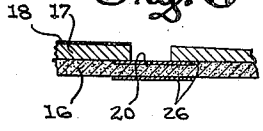


Fig. 7

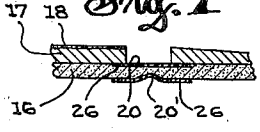
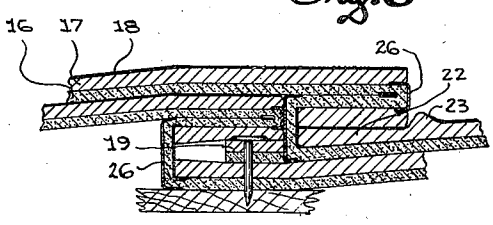


Fig. 8



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ROOF COVERING AND METHOD OF FORMING SAME

Filed May 31, 1929 2 Sheets-Sheet 2

Fig. 9

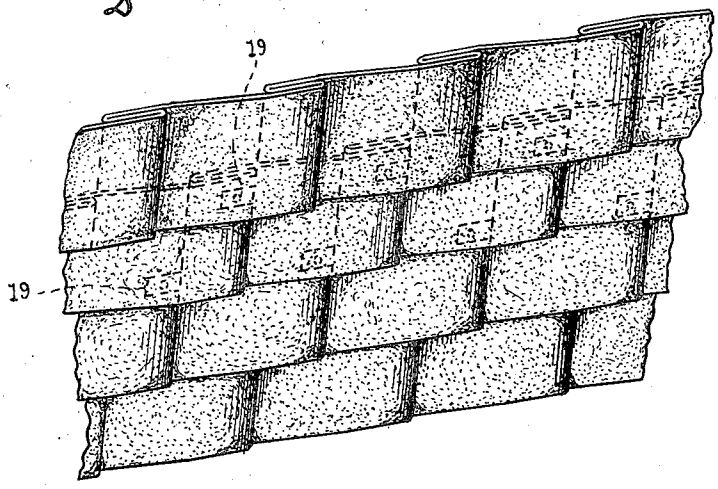


Fig. 10

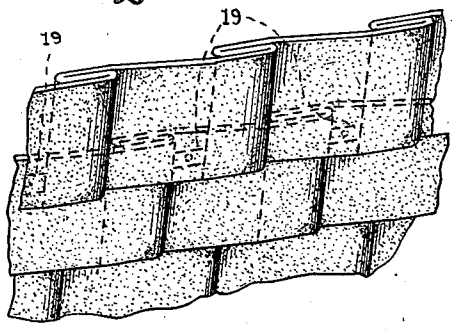


Fig. 12

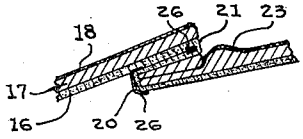


Fig. 13

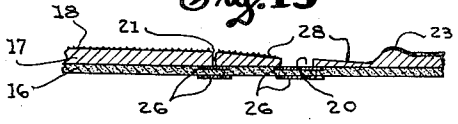
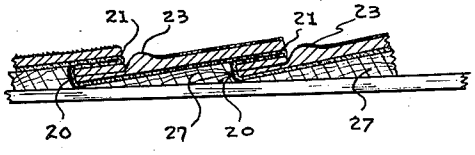


Fig. 11



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UNITED STATES PATENT OFFICE

1,994,643

ROOF COVERING AND METHOD OF FORMING SAME

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Application May 31, 1929, Serial No. 367,504

16 Claims. (Cl. 108—7)

This invention relates to improvements in roof coverings and method of forming same.

In certain types of roof coverings, in which composition material is employed, it is necessary to bend said material at various intervals to produce a desired effect. Heretofore, said bending has been done by the workmen at the time of laying the roof, and in certain climates the bending is rendered quite difficult, due to the fact that the asphalt used to cover the roofing strips is susceptible to climatic changes.

It is one of the objects of this invention to provide a method of forming roof coverings in which the asphalt and slate covering is removed or weakened along certain lines to facilitate the folding operation and to make said folding readily possible in any climate.

A further object of this invention is to provide an improved roof covering and method of forming the same, in which the material is reinforced along the line of fold.

It is a further object of this invention to provide a roof covering having a novel locking means, said locking means being adapted to receive nails, and said nails being adapted to be covered over when the roofing is assembled.

A further object of this invention is to provide an improved roof covering and method of forming the same in which the asphalt and slate covering is operated on in certain areas to form a depressed portion and a shoulder adjacent thereto, said depressed portion being arranged to receive the doubled over portion of the roofing material, and said shoulder being arranged to engage the edge of said doubled over portion to prevent water from entering below the folds.

A further object of this invention is to provide an improved roof covering and method of forming the same which is comparatively simple and which is well adapted for the purpose described.

With the above and other objects in view, the invention consists of the improved roof covering and method of forming the same, and all its parts and combinations, as set forth in the claims and all equivalents thereof.

In the accompanying drawings, in which the same reference characters designate the same parts in all of the views:

Fig. 1 is a fragmentary plan view of a sheet of material after it has been run through a roofing machine;

Fig. 2 is a sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a plan view of a single roofing strip showing how it is folded when laid on a roof;

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3;

Fig. 5 is an enlarged detail sectional view showing how the end folds of two adjacent strips abut when assembled;

Fig. 6 is an enlarged sectional detail view showing the reinforcing means at one of the lines of fold;

Fig. 7 is a similar view showing a slightly modified form;

Fig. 8 is an enlarged detail sectional view showing how the strips may be nailed to the roof;

Fig. 9 is a perspective view showing how the strips are assembled on the roof;

Fig. 10 is a similar view showing another manner of assembling the strips;

Fig. 11 is a fragmentary sectional view showing how wood fillers may be employed;

Fig. 12 is an enlarged sectional detail view showing a modified form of strip in folded position; and

Fig. 13 is a similar view to Fig. 12 showing the modified form before it has been folded.

Referring to the drawings, the numeral 15 designates a sheet of roofing material, the said material being preferably composed of a felt base 16, an asphalt covering 17, and a layer of granulated slate 18. The said sheet is run through a roofing machine and is severed into a plurality of strips extending transversely of the sheet as indicated by the dotted lines in Fig. 1. At the same time, locking tongues 19 are cut out. As the sheet is being run through the roofing machine, the surfacing material is removed along lines extending longitudinally of the sheet to form channels 20 along the lines where there is to be outward folding. Where there is to be inward folding, slits are formed in the surfacing material as at 21. Also, in certain areas, the surfacing material is softened and operated upon to form depressions 22 and shoulders 23. At one end of each strip, a flap 24 is formed which is adapted to be folded outwardly, and at the other end of each strip a similar flap 25 is formed which is arranged to be folded inwardly to engage the outwardly folded flap of an adjacent strip, as shown in Fig. 5.

In forming the roofing material, strips of tape 26 are laid longitudinally of the sheet along the lines where the folding is to be done, preferably both above and below the felt base as shown. The said tape reinforces the material along the weakened lines of fold.

When laying a roof, the flat strips shown in Fig. 2 are folded outwardly on the depressed lines

20 and inwardly on the lines 21 to the form shown in Figs. 3 and 4, there being a plurality of doubled over portions with the tongues 19 projecting rearwardly therefrom, the recesses from which the tongues have been cut making convenient spaces for the workman to engage with his fingers to enable him to more readily pull the foldable portions downwardly. The said doubled over portions fit within the depressions 22 and against the shoulders 23 to prevent water from getting beneath the folds. Before each portion is doubled over, the tongues 19 may be nailed to the roof as shown in Fig. 8, 9 or 10, and when the strip is doubled over, the nail heads are covered up, no water being permitted to enter through the nail holes.

The strips are laid in rows, with the doubled over portions staggered with relation to one another. In the preferred form, shown in Fig. 9, the tongues 19 are inserted and nailed beneath the folded over portions of the adjacent row. In the modified form shown in Fig. 10, the ends of the tongues abut the ends of the doubled over portions instead of being inserted therebeneath.

In Fig. 7, a slightly modified form of strip is shown, in which the lower surface of the material is scored as at 20' along the line of the channel 20 in the upper surface.

In Fig. 11, the use of wood fillers 27 between the strips and the roof is illustrated, the tongues 19 being eliminated in this form. In Figs. 12 and 13 another modification is shown, in which the material adjacent the channel 20 is tapered as at 28 to render the doubled over portion less bulky.

It is to be understood that in forming the channels 20 and slits 21 various methods may be used. For example, the asphalt and slate covering may be removed or depressed along the desired lines, the material may be provided with surface cuts, or a solvent may be employed to weaken or depress the surface material so as to permit its being grooved. It is also not desired to be limited to any particular position for the channels or depressions or to the particular direction in which they extend, but it is preferred, in order to facilitate the manufacture, to have said depressions run parallel with the roofing web as it passes through the machine.

In addition to the abovementioned modifications, it is obvious that various other changes may be made in the article or method without departing from the spirit of the invention, and it is to be understood that all such changes are contemplated as may fairly come within the scope of the claims.

What I claim is:

1. As an article of manufacture, a roofing strip comprising a body portion having a fold therein and having a tongue projecting from said fold below the body portion, said tongue being adapted to engage the fold of an adjacent strip and to be secured to the roof to maintain said strip in position.

2. As an article of manufacture, a roofing strip comprising a body portion having a doubled over portion and having a tongue projecting from said doubled over portion below the body, said tongue being adapted to engage the doubled over portion of an adjacent strip and to be secured to the roof to maintain said strip in position.

3. As an article of manufacture, a roofing strip comprising a body portion having a fold therein and having a tongue projecting from said fold below said body portion, said tongue being adapted to engage the fold of an adjacent strip.

4. As an article of manufacture, a roofing strip comprising a body portion having a tongue cut from an interior portion thereof, said strip being adapted to be doubled over and said tongue being adapted to project from said doubled over portion below the body and to engage the doubled over portion of an adjacent strip.

5. As an article of manufacture, a roofing element comprising a felt base, a coating carried by said base, and reinforcing means between said base and said coating along desired lines to strengthen the material when the latter is folded.

6. As an article of manufacture, a roofing element comprising a felt base, a coating carried by said base, and reinforcing tape between said base and said coating along desired lines to strengthen the material when the latter is folded.

7. As an article of manufacture, a roofing element comprising a felt base, a coating carried by said base, and reinforcing means between said base and said coating along desired lines to strengthen the material when the latter is folded, a portion of said surfacing material being removed over said reinforcing means to facilitate the folding.

8. As a new article of manufacture, a roofing strip comprising a body portion having a doubled over portion and having a tongue of not greater width than said doubled over portion projecting therefrom below the body, said tongue being adapted to be secured to the roof to maintain the strip in position.

9. As a new article of manufacture, an elongated roofing strip having a pair of spaced apart and parallel lines of fold therein adapted to form a doubled over portion and having cuts extending through the material between said lines of fold to permit insertion of the finger and thereby facilitate pulling over the doubled over portion during laying, the cuts being covered over after the folding has been accomplished.

10. As a new article of manufacture, an elongated roofing strip having a pair of spaced apart and parallel lines of fold therein and having cuts extending from one of the lines of fold into the material to form a tongue connected to the body adjacent the line of fold, said lines of fold providing for doubling over of the material to cover the recess formed by the tongue and said tongue projecting inwardly below the body to form means for securing the strip to the roof.

11. As an article of manufacture a roof and siding element adapted to be formed with double folds to simulate a covering of similar individual overlapping figures, comprising a continuous strip of flexible weather resistant material having surfacing material thereon and having two opposite longitudinal edges and having portions to form layers of a fold, a plurality of weakened sections bounding said portions presenting narrow slits or slots substantially the depth of the surfacing arranged in pairs over the strip and extending substantially normal to the longitudinal edges of the strip, and reinforcing means comprising strips of pliable material affixed below said slits or slots and bridging and substantially coextensive with each weakened section, the distance between a pair of weakened sections being less than the distance between pairs of said weakened sections and the portions of the strip defined by the lesser distant weakened sections forming the intermediate layer of a double fold when folded.

12. In a roof and siding covering a plurality of

shingle strips laid to the weather and presenting shingle configurations, said strips having doubled over body portions forming closed folds and having tongues projecting from folds, under the body portions, and said strips being arranged in overlapping courses with adjacent strips in a course lapped and with the tongues of one course of strips overlying the body portions of underlying strips of the adjacent lower course and driven fastening means secured through said tongues and underlying body portions to lock down the strips and said fastening means being covered by body portions of the strips of which said tongues form a part.

13. In a roof and siding covering a plurality of shingle strips presenting overlapping shingle configurations and having doubled over portions comprising closed folds, certain edges of fold forming exposed edges of the shingle configurations and other edges of fold having projecting therefrom tongues of no greater width than the doubled over portions, said strips being arranged in overlapping courses with adjacent strips in a course lapped and with the tongues of strips of one course secured under the folds of underlying strips of the next lower course.

14. A roofing and siding element comprising a body portion of a surfaced base material having a fold therein, a tongue projecting from said fold, and reinforcing means along the fold and between the base and surfacing therefor, said tongue being adapted to secure the strip to a surface when laid and said reinforcing means strengthening the body portion at the fold.

15. A method of forming roofing and siding elements which comprises, providing a moving sheet of felted material, adhesively securing a surface layer thereon, forming upon the surface layer along predetermined lines substantially parallel to the direction of motion of the sheet to weaken the sheet narrow slits or slots substantially the depth of the surfacing at the lines of weakening, positioning reinforcing strips of other material than the surfacing at the weakened lines, mounting said reinforcing strips bridging the slits or slots and substantially coextensive with the lines of weakening, and cutting the sheet transversely into individual sections.

16. A surfaced roofing and siding element comprising a base strip having a layer of surfacing material thereon and having portions forming a double fold and simulating lapped elements, the edges of fold comprising spaced reinforced weakened sections, said reinforced weakened sections comprising narrow slits or slots characterized by the removal of surfacing material, and having pliable reiforcing means of greater width than said slits or slots substantially coextensive therewith, said reinforcing means bridging said weakened sections of the folded edges to prevent tearing of the element along said edges.

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