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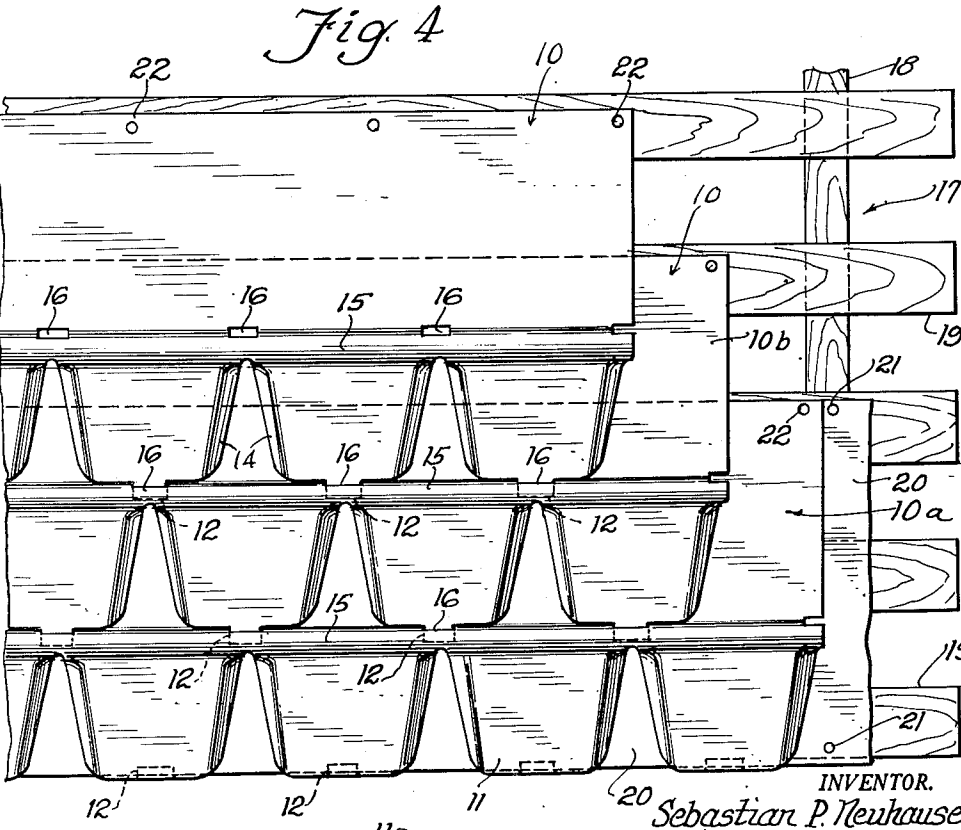
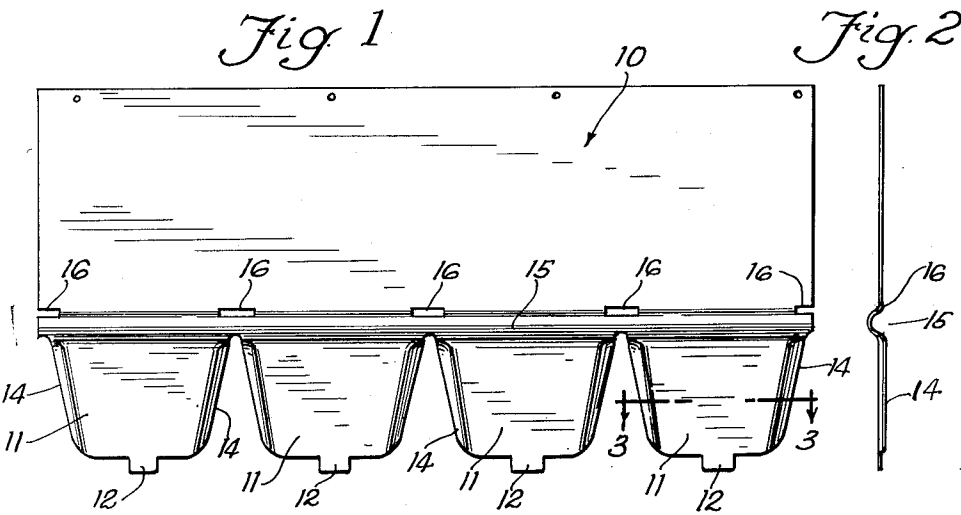
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SHINGLE

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2 Sheets-Sheet 1



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SHINGLE

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1 Claim. (Cl. 108—17)

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This invention relates to improvements in shingles and particularly to shingles adapted to be formed from sheet metal such as aluminum by simple die stamping operations.

One object of the invention is to provide a metal shingle provided with means for engaging a shingle of a previously laid course and having means for engaging a shingle or shingles of a subsequently laid course whereby the lower edges of all the shingles of a course will be anchored to the next lower course of shingles thus making it feasible to form the shingles of relatively light gauge metal.

Another object of the invention is to provide metal shingles of relatively flat form, resembling usual composition strip shingles or wood shingles in that respect and which can be laid in a similar manner by workmen experienced in conventional roofing technique and which avoid the use of interfitting marginal flanges employed in some types of metal shingles which require more costly dies for manufacture, greater skill and time in laying and, as compared with shingles of the last-mentioned type, are more economical of metal in that no interfitting side flanges are employed which reduce the roof covering capacity of the individual shingles per unit area of the metal required in their fabrication.

Another object of the invention is to provide metallic shingles which can be manufactured in strip form provided with shingle elements shaped to provide a decorative effect when laid and which elements are provided with means for engaging a lower course of shingles not only for retaining the individual shingle elements against upward displacement but provide aligning means for a course being laid whereby the improved shingles can be placed in position on a roof rapidly and with assurance that the courses will be parallel.

Another object of the invention is to provide an improved cresting member adapted for use with metal shingles for providing a leak-proof construction along the ridge of a roof and provided with means for concealing the nails or like fastening elements by means of which the cresting units are attached to the roof.

Other objects of the invention relate to various features of construction and arrangement of parts which will be apparent from a consideration of the following specification and accompanying drawings wherein:

Figure 1 is a top plan view of a metal shingle which is illustrative of the present improvements;

Fig. 2 is an end view of the shingle shown in Fig. 1;

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Fig. 3 is a sectional view taken on line 3—3 of Fig. 1;

Fig. 4 is a fragmentary portion of a roof structure shown with a few of the improved strip shingles in place thereon;

Fig. 5 is a broken bottom plan view of a portion of the roof shown in Fig. 4 and illustrating means for securing the bottom edges of the shingle elements to a subjacent metal strip;

Fig. 6 is a top plan view of a cresting element adapted for use in conjunction with a roof covered with the improved shingles although not limited to such use;

Fig. 7 is an end view of the cresting member looking to the left of Fig. 6;

Fig. 8 is a broken sectional view taken on line 8—8 of Fig. 6 but showing the relative position of a nail with the head thereof in a recess that is concealed after the cresting element has been secured in position; and

Fig. 9 is a broken elevational view of a ridge roof showing the relationship of two cresting members in position thereon.

Referring to Fig. 1 of the drawing, the strip shingle therein shown comprises an upper strip-like portion 10 of suitable metal such as aluminum, for example, along the lower margin of which projects four shingle elements indicated generally by the numeral 11. Each of the elements 11 is provided with an anchoring tab 12 at the lower end, that is, the end of the element which is lowermost after the shingle has been laid on a roof. The particular shape of the shingle elements may be varied from that shown in the drawing, as will be apparent. The lateral or side edges of each element preferably are turned downwardly to form flanges 14 (see Fig. 3). Extending longitudinally of the strip 10 adjacent the upper ends of the shingle elements 11 is a stiffening rib 15 which is shown as being substantially semi-cylindrical. In alignment with the spaces between adjacent elements 11 are tab-receiving apertures 16. These apertures 16 are formed at the base of the upper side of the rib 15. In the particular form of the shingles shown in Fig. 1, the length of the strip from left to right is such as to accommodate the integral formation of four full size shingle elements 11 and hence, at each end of the strip, an aperture 16 of one-half the size of the other apertures is provided. In laying a course of improved shingles, the end of one abuts the end of another and the two one-half apertures 16 of the abutting edges will form a full aperture for the reception of an

anchoring tab 12 of a superjacent course of shingles, as will be seen.

In the shingle shown in Fig. 1, the apertures 16 are shown, as stated above, in alignment with the spaces between adjacent shingle elements. Such arrangement, as will be seen in Fig. 2, effects a staggering of the shingle elements of successive courses as the shingles are laid. By changing the positions of the apertures 16 into registration with the tabs 12, for example, the shingle elements 11 of successive courses would be arranged in straight lines from the eave to the ridge of the roof. Other arrangements of the apertures relative to the tabs may be provided for obtaining oblique line effects, as will be seen.

Referring to Fig. 4, a skeleton-type roof structure is shown which is indicated generally by the numeral 17. Such roof structure may comprise any number of rafters 18 and roof boards 19 suitably spaced apart. This roof structure need not be formed of roof boards in edge-to-edge relation although such may be employed, if desired. Where the spaced roof boards 19 are employed, they should be spaced such distances as to provide for nailing the upper edges of the shingles of the successive courses of shingles to the roof.

Along the lower edge of the roof 17 there is provided, preferably, a continuous metal sheet 20, the lower edge of which projects downwardly slightly beyond the lower edge of the lowermost roof board 19. The strip 20 may be secured to the roof by nails 21 along the upper edge as well as along the lower edge, if desired. A longitudinal course of shingles is then placed upon the strip 20, the shingles being secured along the upper edges by nails 22 to the roof structure. The width of the shingle strip from top to bottom preferably is about three times the length of the shingle elements themselves. The shingles of the lowermost course 10a, as shown in Fig. 4, have their lower edges in registration with the lower edge of the strip 20. The tabs 12 of the lower course of shingles 10a are folded under the projecting lower edge of the strip 20 for anchoring the lower ends of the shingle elements 11 of the course 10a against upward displacement. The second course of shingles indicated by numeral 10b is laid in overlapping relation upon the course 10a and in so laying each individual strip shingle, the tabs 12 of the shingles of course 10b are inserted in the apertures 16 of the lower course 10a, thus anchoring the lower ends of the elements against upward displacement while the upper edge of each strip shingle is secured by nails to the roof structure. The edge flanges 14 of each shingle element tend to space the intermediate portion of the respective element slightly from the subjacent shingle or shingles and hence as a particular shingle of the second or subsequent course is moved into its final position on the roof after the insertion of the tabs 12 thereof in the respective openings 16 in the shingle or shingles of the previously laid course, the tabs 12 are placed under slight tension which tends to hold the respective shingle elements 11 down firmly against the subjacent portion of the previously laid course of shingles. Each shingle as it is placed in position is secured to the roof structure along the upper edge of the shingle by nails 22 or the like, as stated.

It will be seen that in the laying of the first course of shingles, the tabs 12 thereof when bent downwardly provide means for ready alignment of the shingles of that course with the lower edge

of the roofing strip 20 and that subsequent courses will be aligned with previously laid courses by reason of the aligning action afforded by the abutment of the lower ends of the shingle element 11 of the shingles being laid with the rib 15 of the previously laid course. The improved shingles thus not only can be laid rapidly by reason of the structure described but the individual shingle elements are anchored at their lower ends against upward deflection by wind, for example, by the respective tabs 12 which seat within the openings 16. It will be seen that each shingle is secured to the roof structure by nails or the like along its upper edge and is secured at its lower edge to a lower course of shingles by the tabs 12.

For the purpose of rendering leak-proof the ridge of a roof covered by the improved shingles any suitable structure may be employed. However, in conjunction with the improved shingles, I prefer to employ metal cresting members indicated generally by the numeral 23. As shown in Fig. 6, the member 23 is provided with a central longitudinal formation or ridge follower 24 shown as being approximately semi-cylindrical although this shape is not essential. The member is provided also with two wing sections 25 each of which is adapted to overlie the upper course of shingles located adjacent the ridge of the roof and preferably have the upper portions 10 bent over the ridge. The portion 24 of the member 20 is provided with an outwardly pressed rib 26 at the left-hand end of the member as shown in Fig. 6 and with a similar outwardly pressed rib 27 of smaller radial dimensions than rib 26 and located a short distance from the right-hand end of the member 23. The relative sizes of the ribs 26 and 27 are such that a rib 26 is adapted to fit down over the rib 27 of another member 23. The coaction of the ribs not only provides means for insuring a uniform overlapping of cresting members as they are placed in position along a roof ridge, but the ribs provide an obstruction to the passage of rain beneath the exposed or left-hand end of the formation 24 of the right-hand shingle shown in Fig. 9 and of subsequently laid cresting members. The exposed ends of the formations 24 at the ends of the ridge can be closed by flattening the same with light hammer blows.

For securing the cresting elements 23 to the roof structure, each of the wings 25 is provided with one or more nail-head receiving apertures 23. These apertures may be formed by a punching operation which leaves the punched out metal integrally connected to the wing to form a closure cap 29. Each wing likewise is provided with a tab 30 preferably integral with the wing, folded against the lower side of the wing and over the respective opening 28. A nail can be driven centrally through an opening 28 and through the folded tab 30 into the roof structure for anchoring the wing in place. The head of the nail is accommodated within the opening 28. The cap 29 of the opening may be hammered down over the top of the nail-head and, the metal, preferably aluminum, being soft, the cap in being hammered over the nail-head can be upset into the opening 28 to close the same thereby not only concealing the nail-head but protecting it against rusting.

While I have shown and described the preferred form of my improved shingle, it will be apparent that various changes may be made therein within the scope and spirit of the appended claim.

I claim:

A strip shingle comprising a sheet metal strip adapted to be secured along the upper edge to a roof structure and provided with a plurality of similar shingle elements spaced apart along the lower edge of the strip and integral therewith, each of said shingle elements being provided with an anchoring tab projecting from the lower end thereof and provided with downwardly turned lateral edges for stiffening the elements and spacing the intermediate portions of the elements from a subjacent shingle, and a raised stiffening rib co-extensive in length with the shingle and extending along the upper ends of the shingle elements and provided at the base of the upper side thereof with spaced apart apertures each for accommodating the insertion beneath said rib of a tab of a similar subsequently laid shingle, said apertures being located in alignment with the spaces between the shingle elements for effecting

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the staggering of the shingle elements of successively laid courses of shingles.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
520,370	Mullins -----	May 22, 1894
1,358,113	Robertson -----	Nov. 9, 1920
1,765,119	Audet -----	June 17, 1930
1,820,388	French -----	Aug. 25, 1931
2,084,699	North -----	June 22, 1937
2,243,256	Miller -----	May 27, 1941
2,433,694	Heinzing -----	Dec. 30, 1947
2,533,378	King -----	Dec. 12, 1950

FOREIGN PATENTS

Number	Country	Date
5,223	Great Britain -----	1891