Nov. 30, 1926. 1,609,127

M. RACHLIN

ROOF COVERING

Filed June 2, 1922 5 Sheets-Sheet 1

Fig. 1.

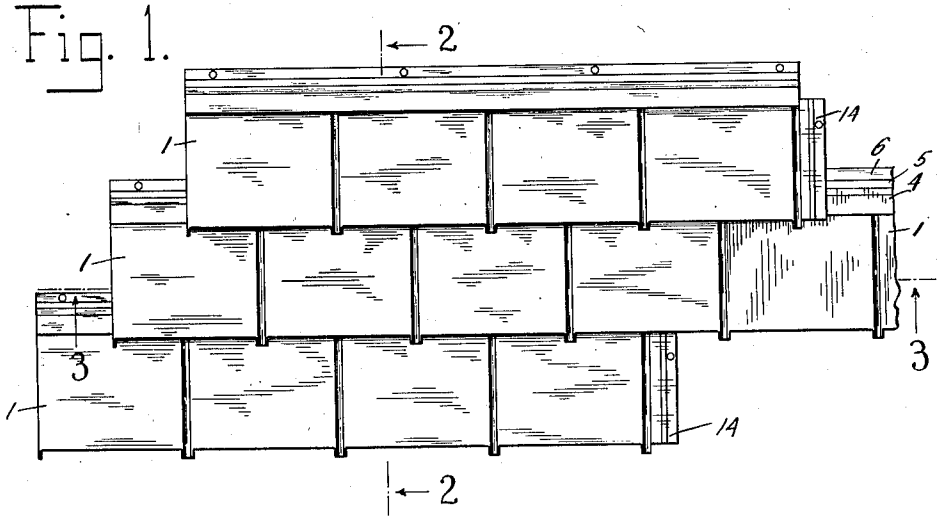


Fig. 2.

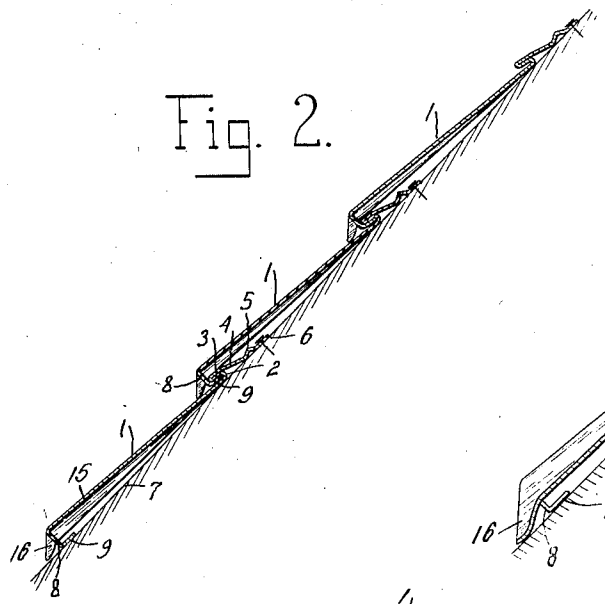


Fig. 5.

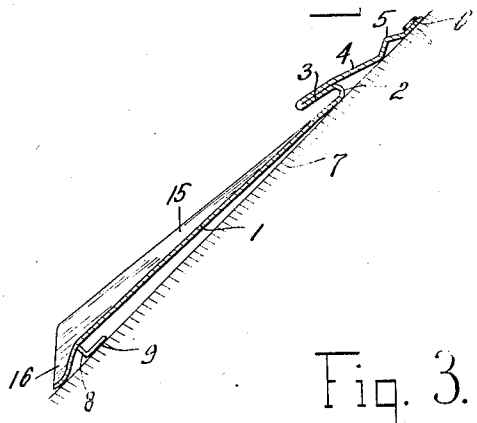
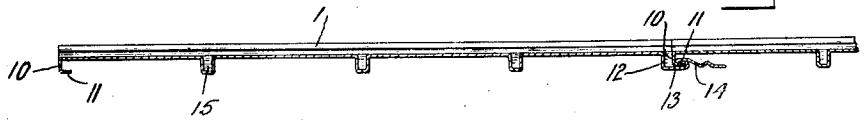


Fig. 3.



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Nov. 30, 1926. 1,609,127

M. RACHLIN

ROOF COVERING

Filed June 2, 1922 5 Sheets-Sheet 2

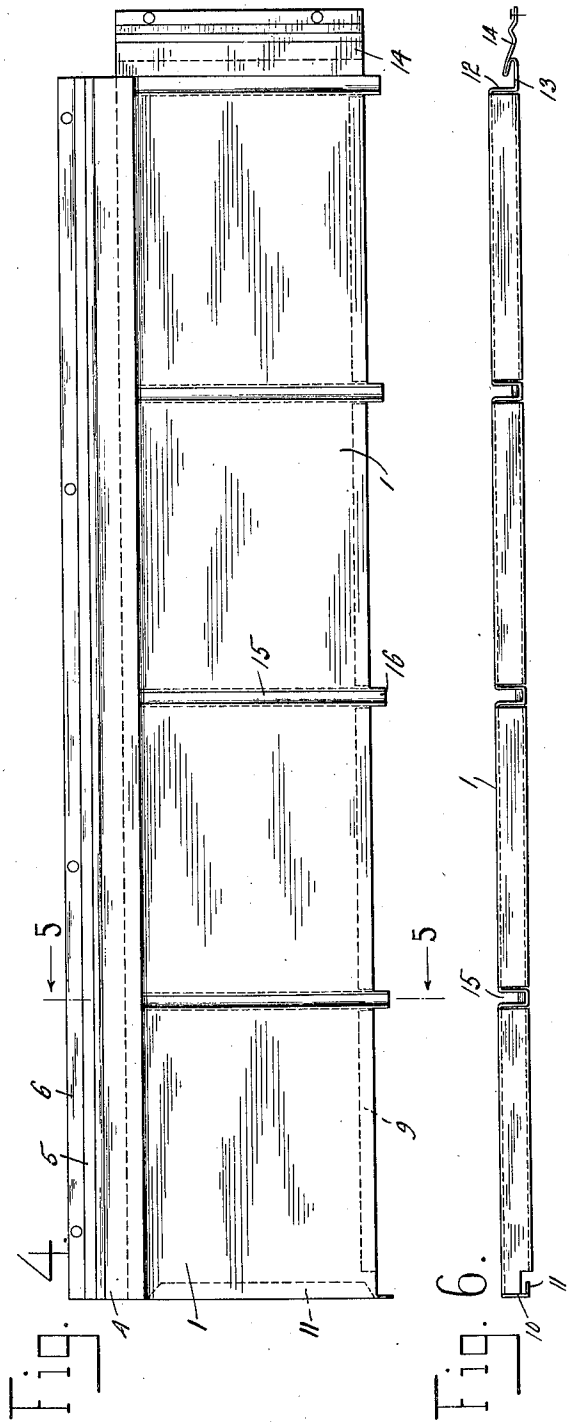


Fig. 4.

Fig. 6.

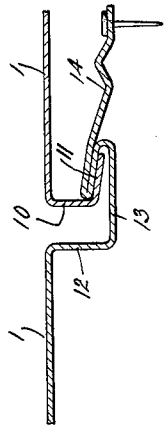


Fig. 7.

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Nov. 30, 1926. 1,609,127

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ROOF COVERING

Filed June 2, 1922 5 Sheets-Sheet 3

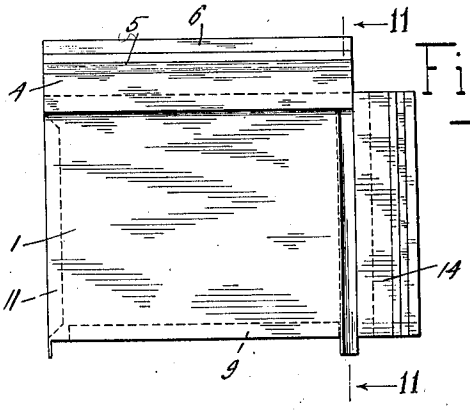


Fig. 9.

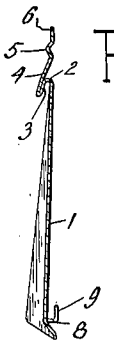


Fig. 11.

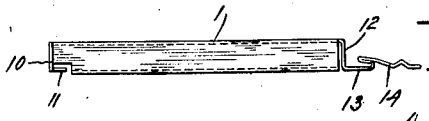


Fig. 10.

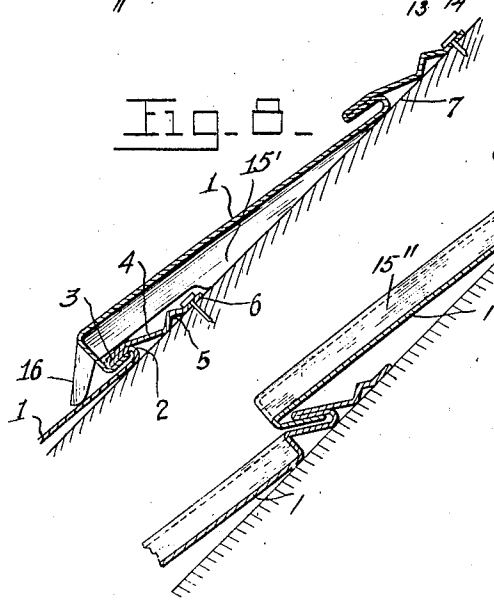


Fig. 8.

Fig. 12.

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Nov. 30, 1926. 1,609,127

M. RACHLIN

ROOF COVERING

Filed June 2, 1922 5 Sheets-Sheet 4

Fig. 13.

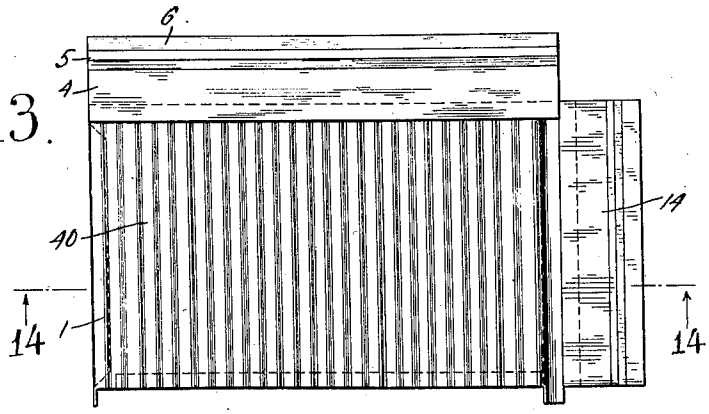
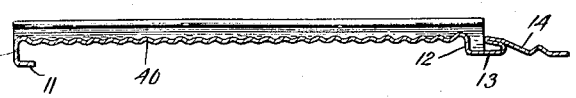


Fig. 14.



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Nov. 30, 1926. 1,609,127

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ROOF COVERING

Filed June 2, 1922 5 Sheets-Sheet 5

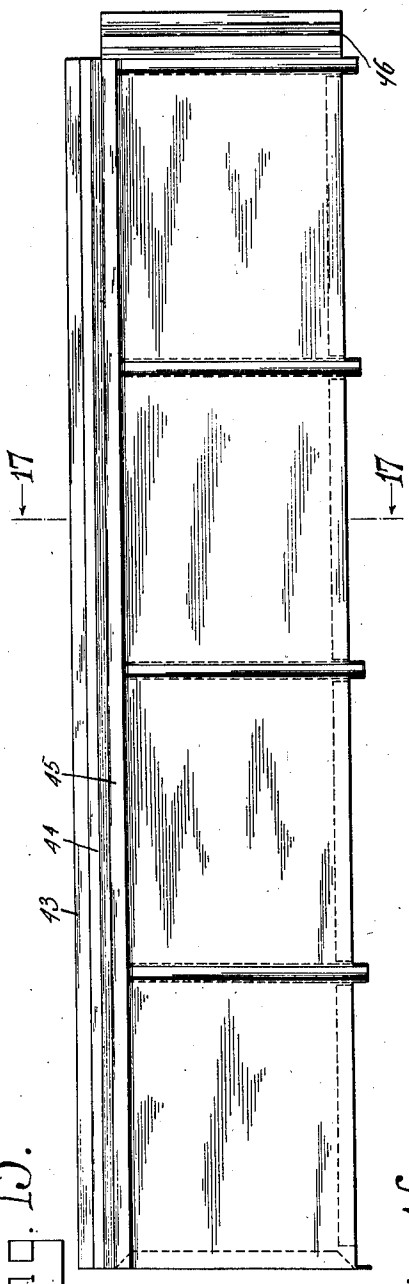


Fig. 15.

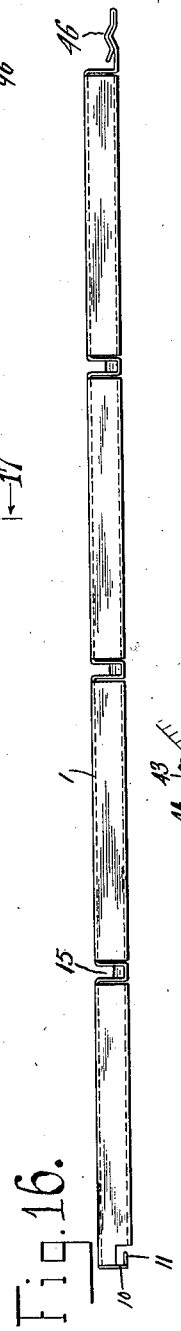


Fig. 16.

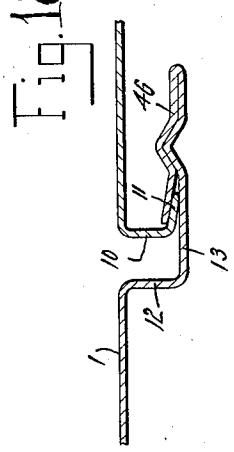


Fig. 18.

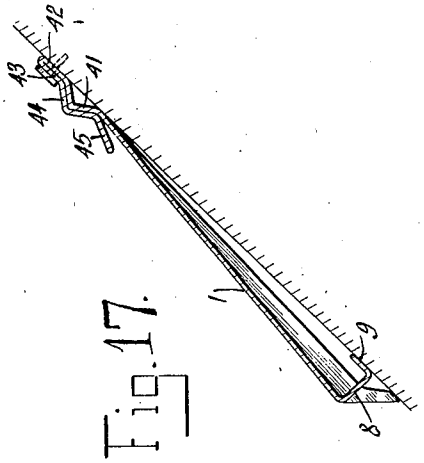


Fig. 17.

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Patented Nov. 30, 1926. 1,609,127

UNITED STATES PATENT OFFICE.

MAX RACHLIN, OF NEW YORK, N. Y.

ROOF COVERING.

Application filed June 2, 1922. Serial No. 565,371.

The present invention relates to improvements in metallic roof-coverings, and more particularly to metallic shingles.

The main objects of the invention are to produce sheet metal shingles which are adapted to be readily laid upon and securely attached to roofs, and capable of being overlapped and interlocked so as to effectively prevent rain from beating in under the shingles or in any manner getting to the roof boards.

A further object of the invention is to provide a metallic shingle of this character, which admits of expansion and contraction of the elements, due to variations in temperature, without causing open joints and leakage.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter described, pointed out in the appended claim and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claim, without departing from the spirit or sacrificing any of the advantages of the invention.

A few of the many possible embodiments of the invention are illustrated in the accompanying drawings, in which:—

Figure 1 is plan view of a number of shingle plates attached to a roof; Fig. 2 is a section taken on line 2—2 of Fig. 1, on a larger scale; Fig. 3 is a section taken on line 3—3 of Fig. 1; Fig. 4 is a plan view of a single shingle plate embodying the improvement, on a larger scale; Fig. 5 is a section taken on line 5—5 of Fig. 4, on a still larger scale; Fig. 6 is a lower end elevation of the shingle plate shown in Fig. 4; Fig. 7 is a section taken through the joint of two adjoining shingles, on a larger scale; Fig. 8 is a section similar to the one shown in Fig. 5 of a modified shingle plate; Fig. 9 is a plan view of another modification of the invention; Fig. 10 is a lower end elevation of the shingle shown in Fig. 9; Fig. 11 is a section taken on line 11—11 of Fig. 9; Fig. 12 is a section similar to the one shown in Fig. 2 of a further modification of the shingle plates; Fig. 13 is a plan view of a further modification of the improved shingle; Fig. 14 is a section taken on line 14—14 of Fig. 13; Fig. 15 is a plan view of a still further modified shingle plate; Fig. 16 is a lower end elevation of the shingle plate shown in Fig. 15; Fig. 17 is a section taken on line 17—17 of Fig. 15, on a larger scale; and Fig. 18 is a section taken, on a larger scale, through a joint uniting two of the shingle plates shown in Fig. 15 of the drawings.

Referring now first to Figs. 1 to 7, inclusive, of the drawings, the numeral 1 designates a metallic shingle plate of oblong configuration, provided with top, bottom and side locks, it being interlocked at each of its marginal edges with the adjacent shingle plates. The top lock is formed by bending the shingle plate in parallel relation to its top edge upwards, as shown at 2, and thence in spaced relation to the body portion of the shingle plate backward, as indicated at 3, forming thus an approximately U-shaped portion, it being then bent upward and backward over the said U-shaped portion and extended beyond the U-shaped portion as shown at 4. Beyond the body portion of the shingle, the extended portion 4 is provided with an upstanding rib or ridge 5 and beyond the said rib or ridge with a section 6, forming a nailing strip, which is adapted to fit flat against the roof boards 7, as clearly indicated in Fig. 2 of the drawings.

The lower edge of the shingle plate is bent downwards, as shown at 8, and then inwards, as indicated at 9. The section 9 of the shingle plate forms a foot flange, adapted to be inserted into the U-shaped portion above described of an adjoining lower course of shingle plates, as clearly shown in Fig. 2 of the drawings.

At one side, the left side as shown in Figs. 3, 4 and 6 of the drawings, the shingle plate is formed with a downwardly bent portion 10, which is then extended inwards, to form a flange 11. On the other side,

the right side, the shingle is provided with a downwardly bent portion 12, which is then extended outwards, as shown at 13, a joint 14 being then formed, which is in all respects similar to the top lock above described.

The shingle plates may each be formed at intermediate points between their sides with a plurality of equidistantly spaced parallel channels 15. extending from the top-locks thereof to their lower edges and also somewhat beyond the said lower edges shown at 16, they being bent beyond the said lower edges downwards into the plane of the foot flanges 9. The channels increase in depth from the top-locks to their discharge ends and serve not only to strengthen the shingle plates but also to drain off any rain or water falling onto the said shingle plates. A further purpose of the said channels is to simulate ordinary shingles, giving an attractive appearance to the roof.

In the application to a roof of shingle plates constructed as herein shown and described, the first course of shingle plates is laid along the lower side of the roof slope beginning at the left and working progressively to the right. As each shingle plate is laid it is fastened in place by nailing through the nailing strip 6 on the top joint and through the similar element on the right side joint. The flange 11 of the next shingle is then interlocked with the U-shaped portion of the side joint of the laid shingle and is nailed in like manner to the roof. The next course above is then laid in a like manner, the flanges 9 along the lower edges of the shingles being properly placed in the U-shaped portions of the shingles in the lower course. The channels 15 in one course are caused to break joints with the channels in other courses, to simulate ordinary shingles.

The ridges 5 in the top-joints and the similar elements in the right side joints of the shingles serve to intercept and drain off any rain or water which may be driven or leak beneath the overlapping portions of an adjoining course and also of adjoining shingles in the same course. These ridges at the same time permit of expansion and contraction of the elements incident to changes in temperature without loosening the fastening devices.

The modification shown in Fig. 8 of the drawings differs from the one above described in that the channels 15′ thereof are throughout the major portions of their lengths in contact with the boards 7 of the roof, the result being that a more rigid structure is obtained.

The modification illustrated in Figs. 9 to 11, inclusive, of the drawings, differs from the one above described in connection with Figs. 1 to 7, inclusive, in that it is considerably shorter, providing thus a single shingle, while the one described in Figs. 1 to 7, inclusive, provides a multi-shingle. Otherwise the construction and operation of the elements are the same.

The modification shown in Fig. 12 of the drawings differs from the construction described in connection with Figs. 1 to 7, inclusive, of the drawings in that the channels 15″ thereof are of the same depth throughout their lengths. Otherwise the construction and operation of the elements are the same as of those described in connection with Figs. 1 to 7, inclusive, of the drawings.

The modification illustrated in Figs. 13 and 14 of the drawings differs from the shingle plates above described in that its body portion is provided with parallel flutings or corrugations 40, which extend in parallel relation from its top joint to the lower edge thereof. These corrugations strengthen the shingle and serve also to distribute the water drainage of the same.

The modification illustrated in Figs. 15 to 18, inclusive, differs from those above described in that its top and right side joints are somewhat different. The top joint in this instance includes a longitudinal ridge 41, rising from the body of the shingle plate along its top edge, and beyond the said ridge a flat portion 42, the edge being then bent back upon and along the said flat portion, as shown at 43, upon and along the ridge 42, as shown at 44, terminating in a flange 45, which extends at an angle to the body portion of the shingle plate. The right side joint 46 of the plate is the same as its top joint, the flanges 9 and 11 of shingle plates engaging with the flanges 45 of shingle plates of a lower course and adjacent plates, respectively. The ridges 41 serve the same purpose as the ridges 5 described in connection with Figs. 1 to 7, inclusive, of the drawings. Otherwise the construction and operation of the elements are the same as of those described in connection with the several devices illustrated and described herein.

What I claim is:—

A sheet metal shingle, comprising an oblong body portion, a top-lock formed along the upper edge of said body portion, a side lock formed along the right side edge of said body portion, one of said locks extending above the exposed face of said body portion and each having made integral therewith an upwardly projecting ridge in parallel relation to the respective edge located beyond the engaging portion of the lock, a foot flange parallel and adjacent to the lower edge of said body portion, and a foot flange parallel and adjacent to the left side edge of said body portion, both of said foot flanges being spaced from said

body portion and adapted to interlock with the top lock and right side lock, respectively, of adjoining shingle plates, said oblong body portion being provided with a channel extending from said top-lock toward and beyond said lower edge, said channel being bent beyond said lower edge downwards into the plane of said foot-flange.

Signed at New York, in the county of New York, and State of New York, this 24th day of May, A. D. 1922.

MAX RACHLIN.