

No. 820,294.

PATENTED MAY 8, 1906.

A. FRIEDLEY.
METAL SHINGLE.

APPLICATION FILED JUNE 23, 1905.

Fig. 1

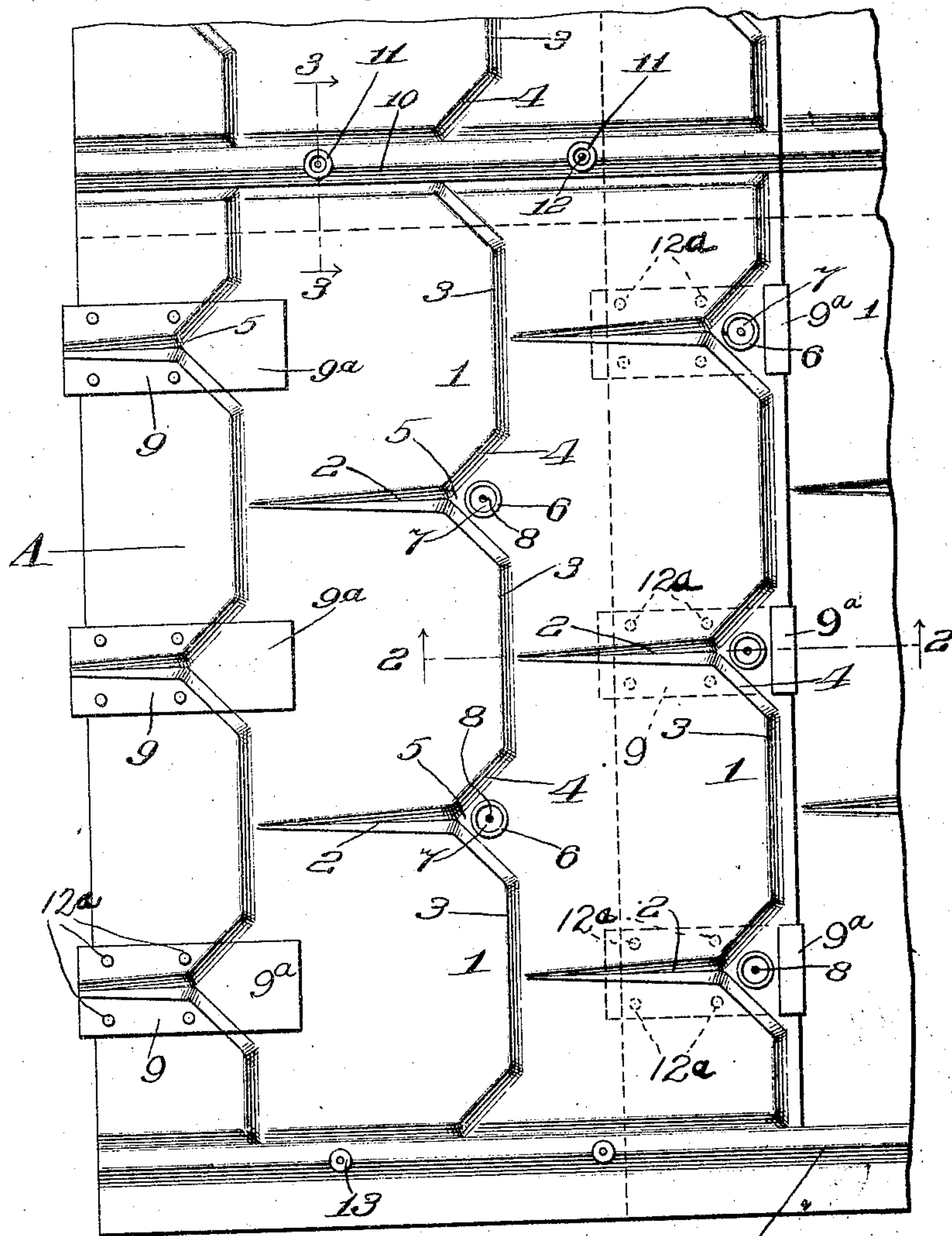


Fig. 2

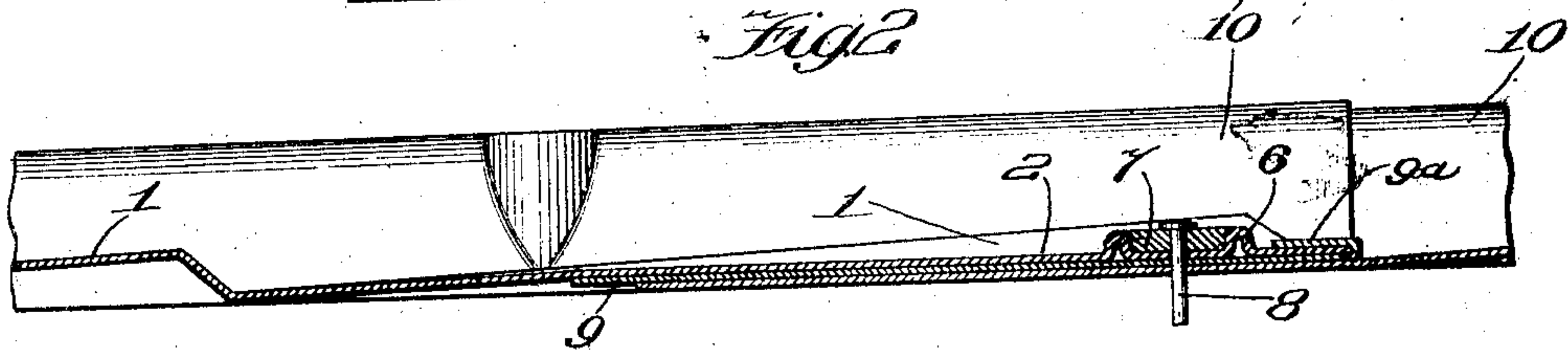
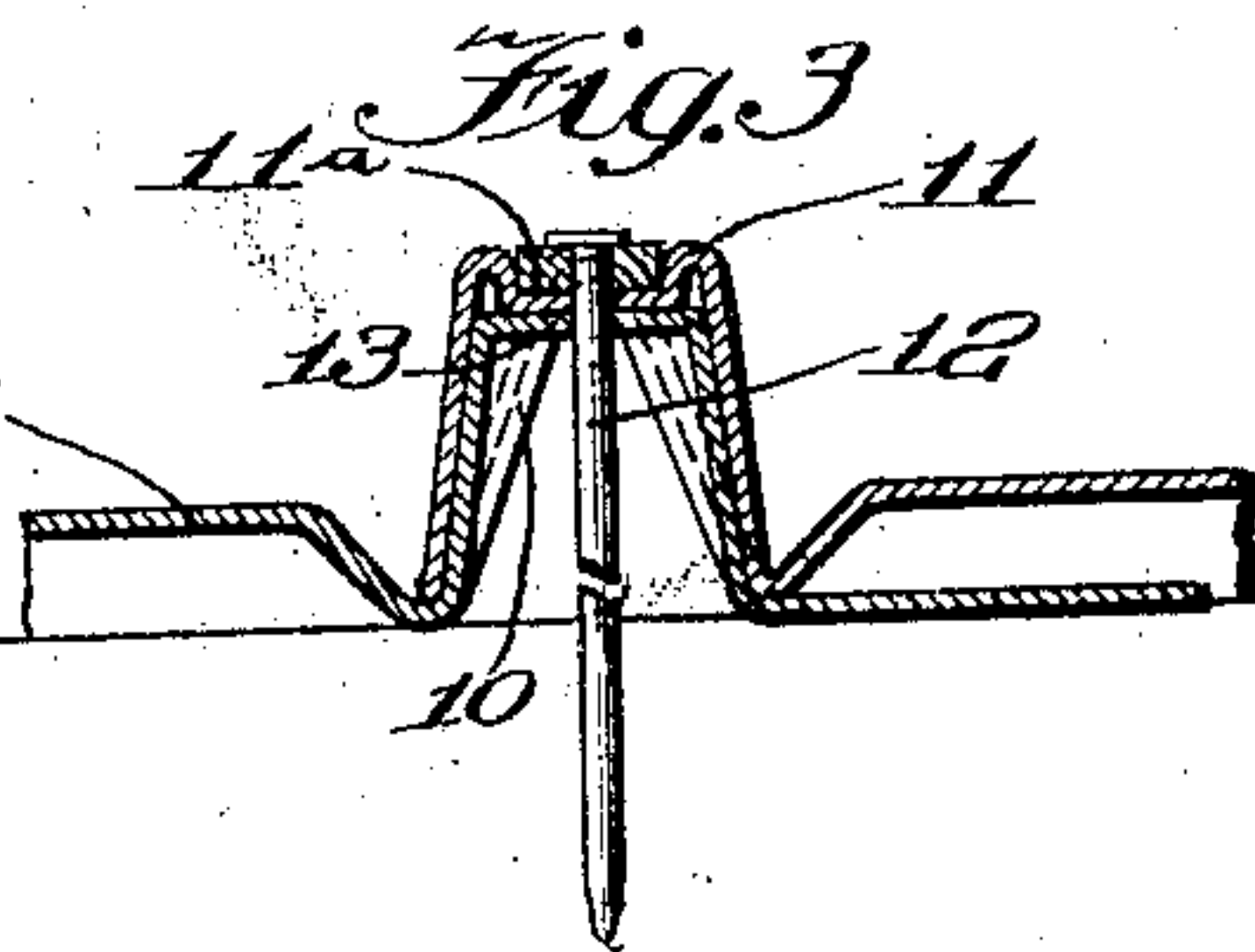


Fig. 3



Witnesses:
Wm. H. Ziegler
J. S. Abbott

Inventor:
Albert Friedley
by Burton Burton
Attys

UNITED STATES PATENT OFFICE.

ALBERT FRIEDLEY, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO
HERMAN F. VOSHARDT, OF CHICAGO, ILLINOIS.

METAL SHINGLE.

No. 820,294.

Specification of Letters Patent.

Patented May 8, 1906.

Application filed June 23, 1905. Serial No. 266,614.

To all whom it may concern:

Be it known that I, ALBERT FRIEDLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Metal Shingles, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

10 The purpose of this invention is to provide an improved construction of metal shingle for the purpose of more secure fastening of the overlapping elements without liability or with diminished liability of leakage by reason of the penetration of the metal by the securing-nails.

It consists of the features of construction set out in the claims.

20 In the drawings, Figure 1 is a plan view of a portion of a roof constructed with this improved shingle. Fig. 2 is a section at the line 2 2 on Fig. 1. Fig. 3 is a detail section at the line 3 3 on Fig. 1.

25 The shingle A shown in the drawings, made of sheet metal struck up in the die to give the configuration shown and to be described, is formed with upraised panels 1 in rows, the panels of each row being separated from each other by depressions 2 and being 30 offset half their width from the panels of the next rows, so that the channels 2 of one row start from the middle point of the lower edge of the panels 1 of the row above. The panels are struck up from the plane surface of the 35 metal sheet, so as to slope from the upper edge, where they commence without any upraise to the lower edge, at which the upraise is maximum and presents a downwardly-facing but somewhat oblique shoulder 3. The 40 channels 2 necessarily have the same graduation of depth from upper to lower end as the panels. The panels 1 are preferably formed with truncated corners at their lower ends, the shoulders 4 of said truncated corners being preferably at an angle forty-five degrees 45 to the shoulders 3, so that the proximate shoulders 4 4 of two adjacent panels stand at an angle of ninety degrees to each other, defining a right-angular extension 5 at the middle of the upper end of each panel reaching 50 in between the two adjacent panels of the row above and merging at its right angle in the bottom of the channel 2 between said two adjacent panels. At the center of this right-

angular extension there is formed an annular 55 boss 6, the purpose of which is to seat a lead gasket 7, through which a nail 8 is driven for securing the shingle to the roof. The lead-gasket, it will be understood, has the function of securely packing the aperture which 60 the nail makes in perforating the shingle and of packing the head of the nail. In the use of my improved shingle it may not in all cases be necessary to employ the nails 8 in the manner or position shown, and to limit 65 the necessity for such nails or for any nails whose heads will be exposed and which for that or any reason would require packing and to secure the shingle by means which shall tend to prevent the nails which may be em- 70 ployed in the position indicated from working out or being drawn out or loosened by the springing or buckling of the metal, which is liable to occur through expansion and contraction in changes of temperature or from 75 any vibration or springing of the roof as a whole, I provide sheet-metal cleats or retainers 9. These cleats or retainers consist each of a strip of sheet metal shaped to seat on the shingle at the channel 2 and the right-angular 80 panel extension 5, being fitted to the upper surface of the panel at that part and being from two to three inches in width, so as to extend an inch or more on each side of the channel 2 when lodged in place upon the shingle. They are intended to be thus lodged 85 only upon the upper row of half-panels of each shingle, such half-panels being designed for overlapping by the next shingle above. The shingle is secured to the roof by nails 12^a, 90 driven through the cleats at opposite sides of the channels 2, and these nails and the apertures which they cause are completely covered by the overlapping of the next shingle. The cleats or retainers are of such length as 95 to extend down past the lower shoulder 3 of these half-panels and project from under the lower edge of the overlapping shingle, and such projecting end portion 9^a of the cleat or 100 retainer is folded back, clasping said lower edge, onto which it may be tightly clenched down by hammering at the fold, so that by its stiffness from the point at which the last 105 nails covered by the overlapping shingle are driven down to said fold it may serve to hold the overlapping shingle snugly in position as if such overlapping shingle were nailed along the edge, at which the refolded lip 9^a of the

cleat or retainer 9 grasps it. This grasp and retention being so near to the nail 8 when such nail is used prevents any springing up, bulging, or buckling of the shingle at that point, which would tend, if it should occur, to draw out the nail 8.

This shingle is formed at the lateral edges with the V-shaped ribs 10, each adapted to receive or be received by the corresponding rib of the shingle next below it and next adjacent to it. At suitable intervals in the length of the V-shaped ribs at one side there are formed cylindrical bosses 11, sunken at the top, making them annular, the sunken pocket thus formed being designed to receive a lead gasket through which the nail 12 may be driven to secure the shingle along the rib to the roof. The rib at the other lateral edge may be provided at corresponding positions with cylindrical bosses 13 enough smaller than the bosses 11 to seat within the latter bosses of the adjacent shingle and enough shorter to accommodate the sunken gasket-pocket 11^a of the larger boss, such bosses 13 being thereby not quite so high as the ribs in which they are formed. The purpose of this construction is to afford opportunity for effectively packing the securing-nails 12.

I claim—

30 1. In a metal roof comprising metal shingles successively overlapped, such shingles being struck up to form panels in rows, the lower row of panels of each shingle overlap-

ping, matching and seating upon the upper row of panels or partial panels of the next lower shingle, the successive panels in each row being separated from each other by depressions which are widened at the lower end and which in the lower row extend thus widened to the edge of the shingle, and cleats shaped to fit the shingle lodged between the overlapped margins of the shingle at such channels having their lower ends projecting beyond the lower edge of the overlapping shingle and clenched back thereonto at the widened lower end of the depressions between the panels.

2. A sheet metal struck up for subdivision in panels separated by intervening depressions, such depressions being widened at the lower edge of each shingle, an annular boss being formed in the widened portion for the purpose set forth.

3. A sheet-metal shingle having lateral marginal V-shaped ribs adapted to be successively interlapped, the outerlapping rib having cylindrical bosses at intervals in the length of such ribs depressed at their upper ends to form gasket-pockets.

In testimony whereof I have hereunto set my hand, at Chicago, Illinois, this 12th day of June, A. D. 1905.

ALBERT FRIEDLEY.

In presence of—

CHAS. S. BURTON,
J. S. ABBOTT.