June 17, 1924. 1,498,356

I. DAVIS

SHINGLE

Filed Oct. 23, 1923

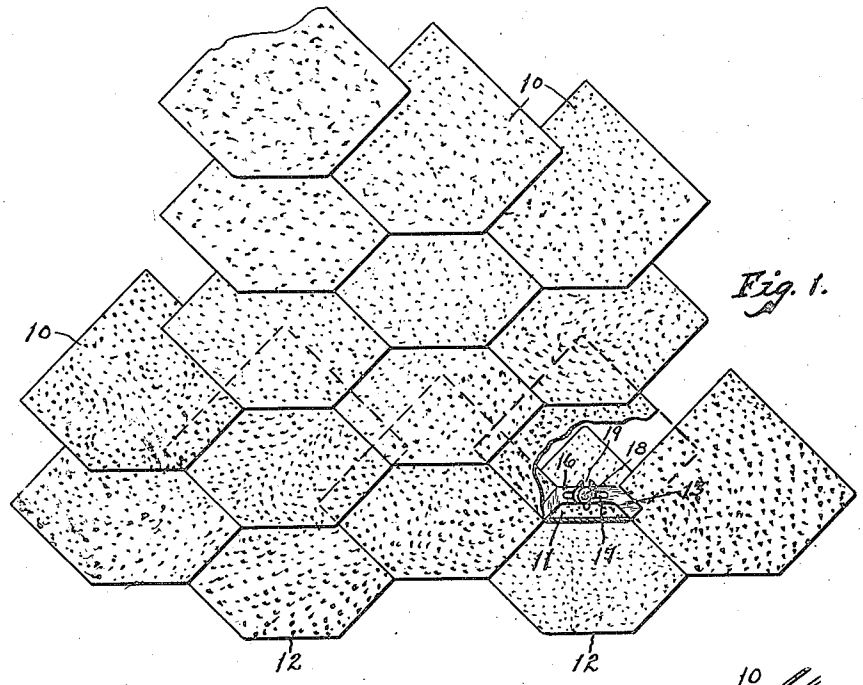


Fig. 1.

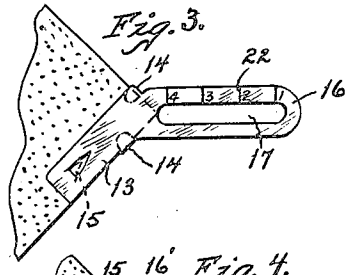


Fig. 3.

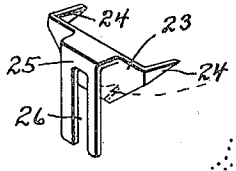


Fig. 7.

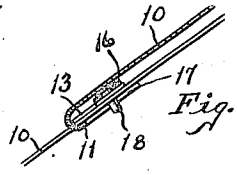


Fig. 6.

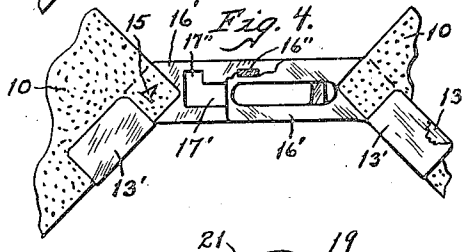


Fig. 4.

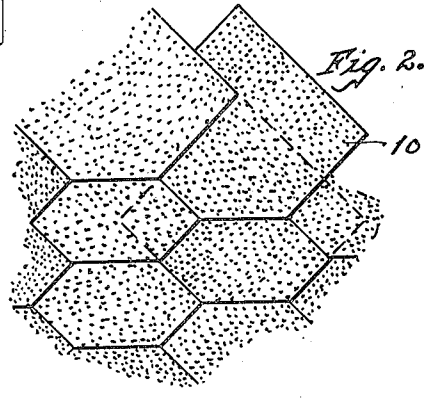


Fig. 2.

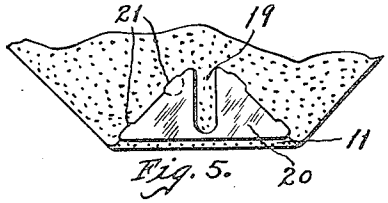


Fig. 5.

Inventor
ISADORE DAVIS

by Earl M. Sinclair Atty.

Patented June 17, 1924. 1,498,356

UNITED STATES PATENT OFFICE.

ISADORE DAVIS, OF DES MOINES, IOWA.

SHINGLE.

Application filed October 23, 1923. Serial No. 670,337.

To all whom it may concern:

Be it known that I, ISADORE DAVIS, a citizen of Russia, and resident of Des Moines, Polk County, Iowa, have invented a new and useful Shingle, of which the following is a specification.

An object of this invention is to provide an improvement in asphalt or composition shingles and particularly with reference to the method and means of laying and securing same in place on a roof in such manner as to minimize the number of nails required to be driven through each shingle, and also to permit adjustability to compensate for expansion and contraction due to changes in temperature, and a range of selection in lapping of the shingles in laying.

A further object of this invention is to provide an improved nailing strip adapted to be secured to and project from opposite corners of a shingle, the strips of adjacent shingles in the same row being adapted to overlap and being slotted to receive a nail.

A further object of this invention is to provide an improved shingle having a folded over portion at its bottom adapted to embrace the overlapping nailing strips of shingles in an adjacent row and also being slotted to receive a nail extending through said strips, whereby adjacent rows of shingles are interlocked.

A further object of this invention is to provide an improved shingle having means to permit selective arrangement with respect to overlapping of shingles in an adjacent row.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my claims and illustrated by the accompanying drawing, in which—

Figure 1 is a view showing a plurality of shingles arranged as required for practical use, one of the the shingles being broken away in part to reveal fastening and interlocking means normally hidden said shingles being laid with a relatively small lap. Figure 2 is a similar view showing shingles laid with a greater lap. Figure 3 is a detail view, on an enlarged scale, showing a portion of a shingle having attached thereto one of the metal clips and nailing strips. Figure 4 is a bottom view, partly in section, illustrating two overlapping nailing strips of slightly modified form. Figure 5 is a bottom view of a portion of a shingle showing the notched fold for interengaging the nailing strips of an adjacent row. Figure 6 is a vertical section, on the line 6—6 of Figure 1. Figure 7 is a perspective view of a hooked clip which may be employed.

According to my invention, each shingle, designated generally by the numeral 10, is preferably substantially square and is adapted to be laid with its diagonal lines in vertical and horizontal directions on a roof; that is to say, with its marginal lines arranged obliquely. The shingles may be made of any suitable flexible or partially flexible material, such as waterproofed paper, composition or the like, and preferably are given a coating of substance to render them practically fireproof in a common manner. Each shingle 10 has its lower corner folded rearwardly on a transverse line to form a substantially triangular flap 11 parallel with and spaced from the body of the shingle. The shingles 10 are designed to be laid in transverse rows on a roof; and the lowermost row of shingles may have its lower corners clipped off on transverse lines 12 (Fig. 1) instead of being folded as just described, said lines 12 coinciding with the lower margin of a roof. Affixed to each lateral corner of each shingle 10 is a sheet metal clip 13, the body of which is preferably rectangular and overlies the face of the shingle, at such corner, and is suitably secured thereto. In Figure 3 the clip 13 is shown as formed with ears 14 on two of its margins, which are folded around marginal portions of the shingle and clamped against the rear face thereof; and also formed with a tooth 15 stamped from its body and extended through the body of the shingle and clinched against the rear face thereof. These fastening means may be employed selectively or conjunctively, and the number of either may be increased if deemed necessary. In Figure 4 I have

shown the clip 13′ formed with a relatively large portion folded around one margin of the shingle and clamped against the rear face thereof, such clamping portion being nearly if not quite as large as the body portion overlying the face of the shingle. This means may also be supplemented by either of the others if desired.

Each clip is formed with a tongue or strip 16 extending therefrom and arranged on the horizontal diagonal line of the laid shingle and formed with a longitudinal slot 17 adapted to receive a nail 18 or similar fastening means. The slotted tongues or nailing strips 16 of adjacent shingles in the same row are adapted to overlap to greater or less extent, depending upon the amount of lap of said shingles relative to others in the next subjacent row; and the nail 18, passing through the slotted tongues or strips of adjacent shingles in the same row tends to prevent up or down movement of said shingles and movement away from the roof, but permits some sidewise movement to compensate for expansion and contraction of the material of the shingle due to changes in temperature.

When one row of shingles has been laid by driving nails through their overlapping slotted tongues or strips, another row is superposed thereon, overlapping upon the first row to the desired extent. The nails 18 are not driven clear home in the sheathing but the strips or tongues 16 are permitted to be spaced somewhat therefrom so that the triangular rearward folds 11 of the succeeding row may be forced beneath said tongues or strips, said folds being hooked beneath the same by upward movement of the shingle; and said folds 11 are formed with end opening slots 19 to receive the nails 18. The inner surfaces of the folds 11 may be reinforced by triangular plates 20 (Figure 5) if desired, shaped and slotted to correspond to the folds and secured thereto by marginal lugs or ears 21. The tongues or nailing strips 16 may be provided with graduations 22 (Figure 3) to guide the workman in laying the shingles and driving the nails in the proper place in the slots 17, such graduations being provided with indices such as "1", "2", "3" and "4" indicating inches of lap of the shingle when laid, relative to shingles of the subjacent row.

In Figure 4 the strips 16′ are shown formed with longitudinal slots 17′ having a series of spaced notches 17″ opening from one margin and adapted to receive selectively a lug 16″ on the other strip. This also guides the workman in laying the shingles to the desired lap, but it tends to prevent lateral sliding movement of one shingle relative to another when they are laid and the nails driven through the slots of the overlapping strips.

If desired, instead of folding back a corner of the shingles 10 to form a flap 11, a separate hooked clip 23 (Figure 7) may be employed, fixed to the rear face of the shingle by means of prongs 24. The clip 23 is formed with an integral hook 25 having a portion parallel with the body and formed with a slot 26 therein to receive a nail 18 when the hook embraces strips such as 16 of adjacent shingles as previously described.

I claim as my invention—

1. A shingle formed of flexible material, metal clips attached to the lateral portions of said shingle, each of said clips being formed with a projecting tongue which is longitudinally slotted and adapted to overlap a similar tongue on an adjacent shingle in the same row and the overlapping tongues adapted to receive a nail, said tongues being adjustable relative to each other to correspond to the desired lap of said shingles relative to shingles in another row.

2. A shingle formed of flexible material, metal clips attached to the lateral portions of said shingle, each of said clips being formed with a slotted tongue projecting beyond the margin of the shingle and adapted to overlap a similar tongue on an adjacent shingle in the same row and the overlapping slotted tongues adapted to receive a nail, the tongues of said adjacent shingles being adjustable relative to each other to correspond to the desired lap of said shingles relative to shingles in another row, said shingle being formed with a rearwardly turned flap at its lower portion adapted to be hooked under the overlapping tongues of shingles in the subjacent row.

3. A shingle formed of flexible material, metal clips attached to the lateral portions of said shingle, each of said clips being formed with a slotted tongue projecting beyond the margin of the shingle and adapted to overlap a similar tongue on an adjacent shingle in the same row and the overlapping tongues adapted to receive a nail, the tongues of said adjacent shingles being adjustable relative to each other to correspond to the desired lap of said shingles relative to shingles in another row, said shingle being formed with a rearwardly turned flap at its lower portion substantially parallel with the body thereof and adapted to be hooked under the overlapping tongues of shingles in the subjacent row and being slotted to receive the nail extending through said overlapping tongues.

4. A clip for flexible shingles, comprising a body of sheet metal adapted to overlie a portion of said shingle, means on said body for engaging said shingle and securing it thereto, said body being formed with a laterally projecting tongue, said tongue being longitudinally slotted to receive a nail.

5. A clip for flexible shingles, comprising

a body of sheet metal adapted to overlie a portion of said shingle, means on said clip body for engaging said shingle and securing it thereto, said body being formed with a laterally projecting tongue, said tongue being longitudinally slotted to receive a nail and being provided with a graduation to guide the placing of the nail to secure the desired lap of adjacent shingles.

Signed at Des Moines, in the county of Polk and State of Iowa, this 20th day of September, 1923.

ISADORE DAVIS.