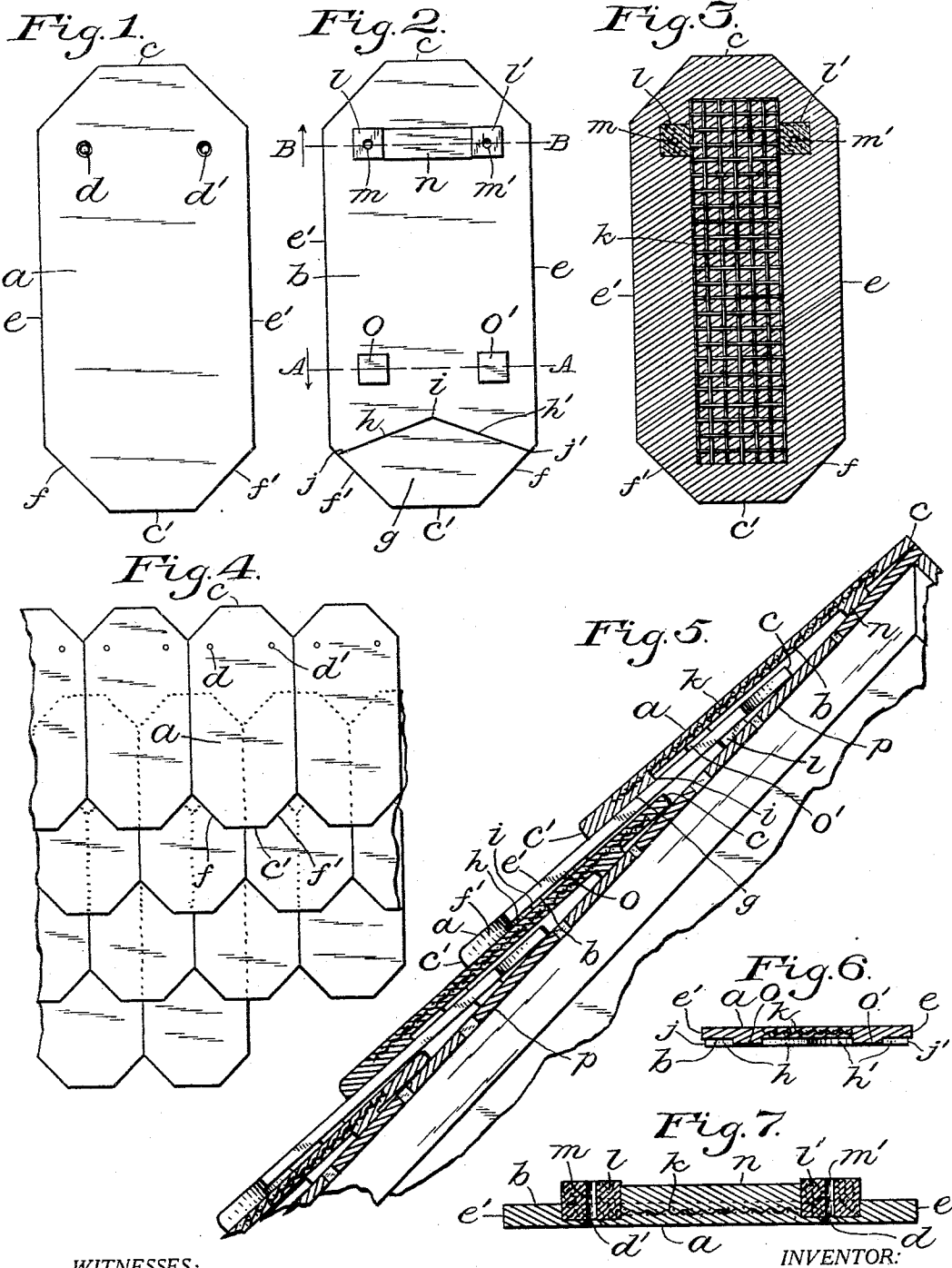


J. H. WIEST.
CONCRETE SHINGLE.
APPLICATION FILED JUNE 8, 1908.

938,930.

Patented Nov. 2, 1909.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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CONCRETE SHINGLE.

938,930.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JONAS H. WIEST, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Concrete Shingles; and I do declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to shingles for roofing buildings, the invention having reference particularly to shingles that are composed of stone-like substance and formed of plastic material, such as sand and cement mixed with water and metallic reinforcing.

Objects of the invention are to provide a permanent roofing shingle which will be proof against deterioration in use, to provide an improved fire proof shingle that will be adapted to be manufactured cheaply and be easily applied to buildings; a further object being to provide a strong and relatively light weight concrete shingle and one which will permit of circulation of air under the shingle or between the shingles and roofing boards to which they may be attached.

The invention consists in an improved concrete shingle comprising certain novel features of construction, and also in parts, and combinations and arrangements of parts, as hereinafter particularly described and defined in the appended claims.

Referring to the drawings Figure 1 is a front plan view of the improved shingle as preferably constructed; Fig. 2, a rear plan view thereof; Fig. 3, a sectional view taken on the plane approximately parallel to the plane of the front of the shingle; Fig. 4 an elevation showing a plurality of shingles as when arranged as parts of roofing; Fig. 5, a fragmentary vertical sectional view of a roof formed of the improved shingles; Fig. 6, a transverse sectional view on the line A—A in Fig. 2; and Fig. 7, a transverse sectional view on the line B—B in Fig. 2.

Similar reference characters in the different figures of the drawings indicate corresponding elements or features referred to herein.

The improved shingle may be made in various shapes and of any suitable dimen-

sions, each shingle having a smooth plane-faced front *a* which may be suitably formed by troweling the plastic material in the mold or form in which the shingles are made, *b* indicating the back of the shingle, *c* the end that is the uppermost end when in use, and *c'* the lower end; each shingle having two nail holes *d* and *d'* in the upper portion thereof that are countersunk at the front of the shingle. The two side edges *e* and *e'* of the shingle are considerably longer than the dimension of the shingle transversely thereof and the lower end portion of the shingle has two edges *f* and *f'* that extend at angles to the edges *e* and *e'*, and the lower end portion *g* is thicker than the body portion of the shingle so as to stand out beyond the plane of the back *b* to form water sheds *h* and *h'* extending from an apex *i* downward to the angular edges *f'* and *f* respectively, so that the lowermost ends *j* and *j'* of the water sheds do not extend out to the planes of the edges *e'* and *e*, thus leaving spaces at the joints of shingles to permit moisture to flow down and out, or to permit air to enter the space under each shingle to evaporate any moisture that there may be under any shingle.

Metallic reinforcing *h* is embedded in each shingle so as to form a part thereof and may be composed of wire netting and extend throughout the middle portions and nearly to the ends of the shingle. Suitable bearing pieces or pads *l* and *l'* are preferably bedded in the back of the upper portion of the shingle so as to be attached thereto and project somewhat beyond the plane of the back, and these preferably are composed of asbestos composition so as to be yielding or compressible and adapted to be pierced by roofing nails, but may be in some cases composed of relatively hard but non-frangible substance, in which case they have nail holes as *m* or *m'* formed therein and registering with the nail holes *d* and *d'* in the body of the shingle, so that the nail heads may be driven against the bearing pieces without liability to cause fractures of the body part.

In some cases a rib *n* is formed on the back *b* of the same material as that of which the body of the shingle is formed and extending between the bearing pieces *l* and *l'*; also in some cases the lower portion of the

back *b* has projections *o* and *o'* thereon to serve as bearings so as to enable the shingle to sustain considerable weight, especially when of relatively large size.

- 5 The bearing pieces, *l*, *l'*, are alike and are most cheaply formed of any suitable fibrous or other yielding composition such as asbestos, as by shearing sheets of asbestos into strips and then shearing the strips into rectangular
10 pieces, or blocks, and the pieces are placed in a suitable mold and covered by the plastic cement composition which enters and adheres to the fibrous material and holds the pieces in place, the pieces being bedded in
15 the back of the shingle sufficiently deep to enable the bearing pieces, when nailed, to prevent the shingle from moving longitudinally. When the bearing pieces are pierced by nails the latter compress the substance
20 of the pieces without transmitting any force against the cement composition surrounding the bearing pieces, and therefore danger of fracturing the body of the shingle when nailing it fast is eliminated. The bearing
25 pieces may be of any desired contour other than rectangular.

In practical use the shingles may be laid so as to overlap somewhat in the manner as that in which shingles are ordinarily laid
30 to form roofing, the bearing pieces *l* and *l'* resting against the roofing boards *p* and the lower end portions extending on to the fronts of lower shingles as usual, and it will be seen that the projections *o* or *o'* bear
35 nearly over the bearing pieces *l* and *l'* of the under shingles in some cases, or the thicker lower ends of the outer shingles have bearings nearly over the projections *o* or *o'* of the shingles beneath and over the
40 bearings *l* and *l'* of other shingles that are attached to the roofing boards *p*, so that there is little liability of fracture when shingles are weighted with snow. If slight moisture
45 gets under the shingles or forms under them it may evaporate in the air spaces under the shingles, or if excessive will flow down the water-sheds *h* and *h'* and off from the lower ends thereof onto the shingles beneath.

Having thus described the invention, what is claimed as new, is—

1. A shingle comprising a body part composed of granular composition and having one plane-faced side, the opposite side of one end portion of the body part having a bearing
55 piece therein formed of substance having fibrous characteristics, the granular composition entering and adhering to the substance of the bearing piece.

2. A shingle comprising a body part
60 formed of frangible material and having one plane-faced side, one end portion of the body part being relatively thick and extending outward beyond the opposite or rear side of the body part, and a bearing piece formed
65 of fibrous yielding substance and attached

to the said rear side of the opposite end portion of the body part.

3. A shingle comprising an oblong body part having one plane-faced side, the opposite side of one end portion of the body part
70 having a projecting bearing part thereon, the opposite end portion of the body part having a relatively thick portion projecting beyond said opposite side and forming angular water sheds that terminate in prox-
75 imity to the end of the body part adjacent to the two opposite longer edges of the body part.

4. A shingle comprising an oblong body part having one plane-faced side, the opposite side of one end portion of the body part
80 having a bearing-piece bedded therein and extending outward therefrom, the opposite end portion of the body part being relatively thick and projecting beyond said opposite
85 side to form angular water sheds that terminate at the end of the body part adjacent to the two opposite longer edges of the body part.

5. A shingle comprising a plastic body
90 part having a relatively thick end portion that has edges that extend angularly to the side edges of the body part, the opposite end portion having perforations therein, the
95 back of the body part having a water-shed thereon that terminates at said angular edges, said back having also a plurality of projections and a rib thereon spaced apart, two yielding bearing-pieces bedded in the
100 back of said body part, and metallic reinforcing material embedded in said body part and extending between said bearing pieces and into said thick end portion.

6. A shingle comprising an oblong body part having a relatively thick end portion
105 that has relatively short edges extending angularly to the longer side edges of the body part, the back of the body part having a water-shed thereon that terminates at said angular edges, two yielding bearing-pieces
110 bedded in the back of said body part, and metallic reinforcing material embedded in said body part and extending between said bearing pieces and into said thick end portion.
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7. A shingle comprising a body part, two yielding bearing-pieces bedded in one side of one end portion of the body part and projecting therefrom, and metallic reinforcing material embedded in said body part and extending between said bearing-pieces and into
120 the opposite end portion of the body part.

8. A shingle comprising a body part having a plane-faced front with perforations in one end portion thereof, the back of said end
125 portion having yielding bearing-pieces bedded therein opposite the perforations and projecting beyond said back, said back having a rib thereon between said bearing-pieces, and metallic reinforcing material embedded
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in said body part and extending between said bearing-pieces and into the opposite end portion of the body part.

5 9. A shingle comprising an oblong body part having a relatively thick end portion that has edges which extend angularly to the longer side edges of the body part, the front of said body part being plane-faced and the back of the body part having angular water-sheds thereon that terminate at
10 said angular edges, and metallic reinforcing material embedded in said body part and extending into said thick end portion.

15 10. A shingle comprising an oblong body part having a plane-faced front with per-

forations in one end portion thereof, the opposite end portion of the body part being relatively thicker than the perforated end portion thereof, and yielding bearing-pieces bedded in the back or opposite side of said perforated end portion opposite the perforations therein.

In testimony whereof, I affix my signature in presence of two witnesses, on the 5th day of June, 1908.

JONAS H. WIEST.

Witnesses:

HARRY D. PIERSON,
E. T. SILVIUS.