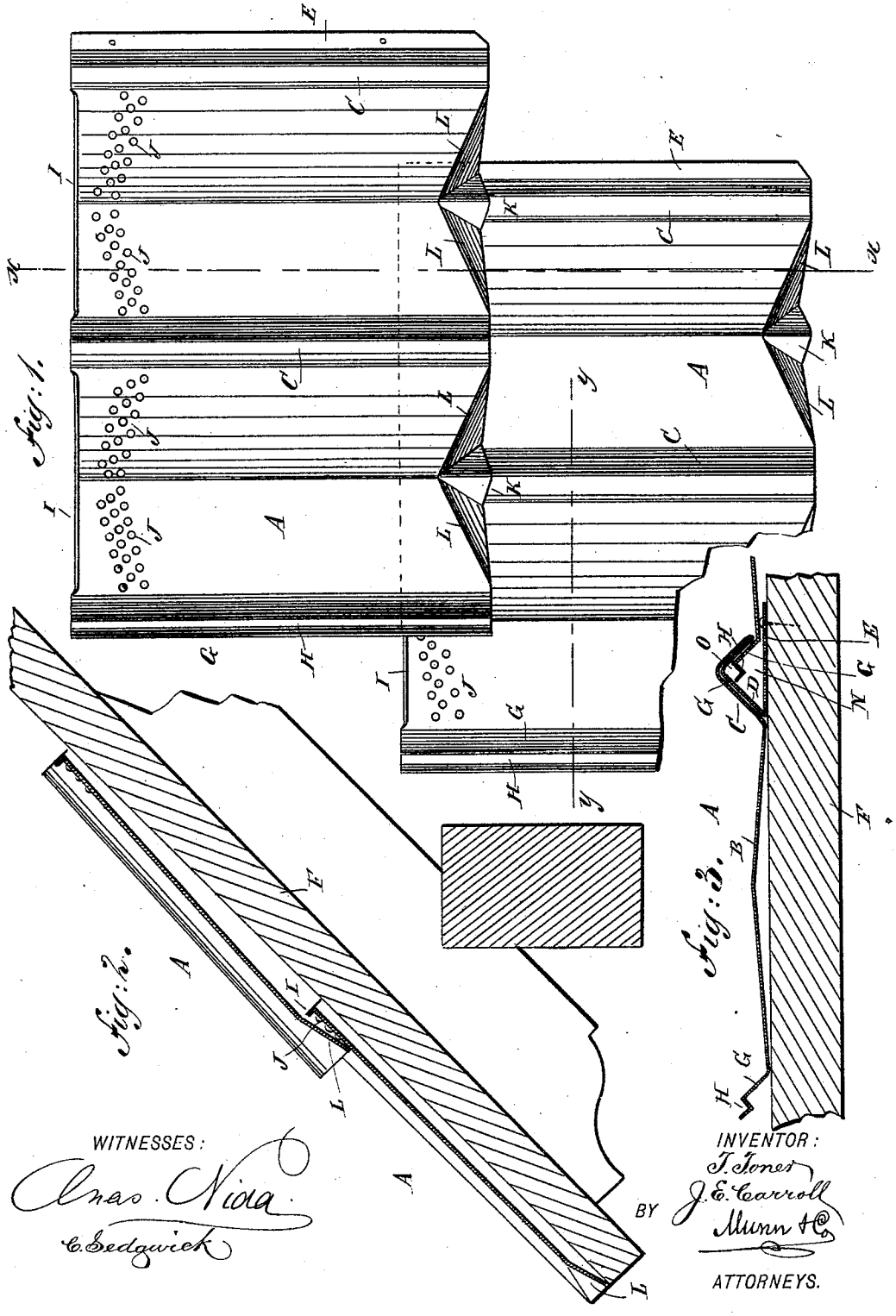
(No Model.)

T. TONER & J. E. CARROLL.

METALLIC SHINGLE.

No. 420,708. Patented Feb. 4, 1890.



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UNITED STATES PATENT OFFICE.

THOMAS TONER AND JOHN E. CARROLL, OF PHILADELPHIA, PENNSYLVANIA.

METALLIC SHINGLE.

SPECIFICATION forming part of Letters Patent No. 420,708, dated February 4, 1890.

Application filed October 15, 1889. Serial No. 327,104. (No model.)

To all whom it may concern:

Be it known that we, THOMAS TONER and JOHN E. CARROLL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Improvement in Metallic Shingles, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved metallic shingle, which is simple and durable in construction, and when applied to a building is securely interlocked and braced and prevents all back-water from passing onto the wood on which the shingles are laid.

The invention consists of a metallic shingle provided on one side with an inverted-V-shaped ridge and a nailing-flange, and on its other side provided with an upwardly-extending flange supporting a V-shaped channel.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter fully described, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement as applied. Fig. 2 is a sectional side elevation of the same on the line *x x* of Fig. 1, and Fig. 3 is a sectional end view of the same on the line *y y* of Fig. 1.

The improved metallic shingle A is provided with a V-shaped body part B, on one side of which is formed a V-shaped ridge C, which continues at its outer edge into a like ridge D, doubled under the ridge C and continuing into the nailing-flange E, adapted to be secured by nails or other means to the wood F of the building on which the shingle is to be applied. On the other edge of the body B is formed an upwardly-extending inclined flange G, on the outer upper edge of which is formed a channel H, extending throughout the length of the flange G—that is, the body part B. The entire shingle is made of one piece of sheet metal bent to the form above described. The upper end of the shingle A is provided with an upwardly-extending short flange I, which prevents water driven up on the shingle A from passing to the wood F. In front of this flange I are arranged a series of projections J, arranged in diagonal lines, as is plainly shown in Fig. 1, said projections serving to prevent the upward movement of the rain-water during a storm, as the water will strike against the projections J, thus losing its force and flowing back down the shingle. Any water passing beyond the projections J is prevented from running underneath the shingles by the upturned flange I. On the lower end of the shingle A is formed a V-shaped saddle K, adapted to fit onto the upper end of the ridge C of the next following shingle, as is plainly shown in Fig. 1. The saddle K is connected with downwardly-inclined sides L, resting with their lower edges on the V-shaped body part B. The lower edges of the sides L are below the projections J, so that the latter are not visible from the outside when the shingles are applied to a building. Water driven upward under the edges of the sides L passes next onto the projections J, in the manner above described.

The shingles are applied on the roof in the following manner: The roofer commences on the lower end of the roof and nails one shingle down onto the roof by driving nails through the nailing-flange E. Then the next shingle is passed endwise with its flange G and its channel H into the space N, formed by the double ridge C D from one end of the shingle, so that the flange G rests against the outer part of the inner ridge D, while the body part B of the second shingle extends to one side over the nailing-flange E. The channel H is directly under the apex of the V-shaped ridge D, its outer edge resting against the inside of the inner part of the ridge D, thus forming an inclosed space O, as is plainly shown in Fig. 3. The channel H, by resting with its edges on the inside of the channel D, raises the latter, thus making the double ridge very strong, at the same time forming the dead-air chamber O. It will be seen that any back-water which may pass upward between the flanges G and D flows into the V-shaped channel H, and is by the latter carried downward onto the apex of the body part B of the next following shingle. The space

N over the nailing-flange E will thus always be dry, and consequently no back-water can pass into the said space and over the nailing-flange E onto the wood F of the roof. It will thus be seen that the two shingles are very strongly interlocked, being braced by the channel H. The next row of shingles is placed on the first row of shingles by fitting the saddle K over the upper edge of the ridge C, so that the projections J are covered, as previously described, and shown in Fig. 1.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. A metallic shingle provided with a body part having on one side an inverted-V-shaped doubled-up ridge, and a nailing-flange extending from the base of the said ridge and provided on its other side with an upwardly-extending flange supporting a V-shaped channel adapted to fit under the inverted-V-shaped ridge of the next following shingle, so as to form with the ridge a channel for air and back-water, substantially as shown and described.

2. A metallic shingle provided with a body part having projections arranged in diagonal rows on the upper end of the body part, substantially as shown and described.

3. A metallic shingle provided with a body part having projections arranged in diagonal rows on the upper end of the body part, and an upwardly-bent flange formed on the extreme upper end of the said body part, substantially as shown and described.

4. A metallic shingle provided with a V-shaped body part, a saddle formed on the lower end in the middle of the V-shaped body part, and downwardly-extending sides extending from the said saddle and formed on the said body part, substantially as shown and described.

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