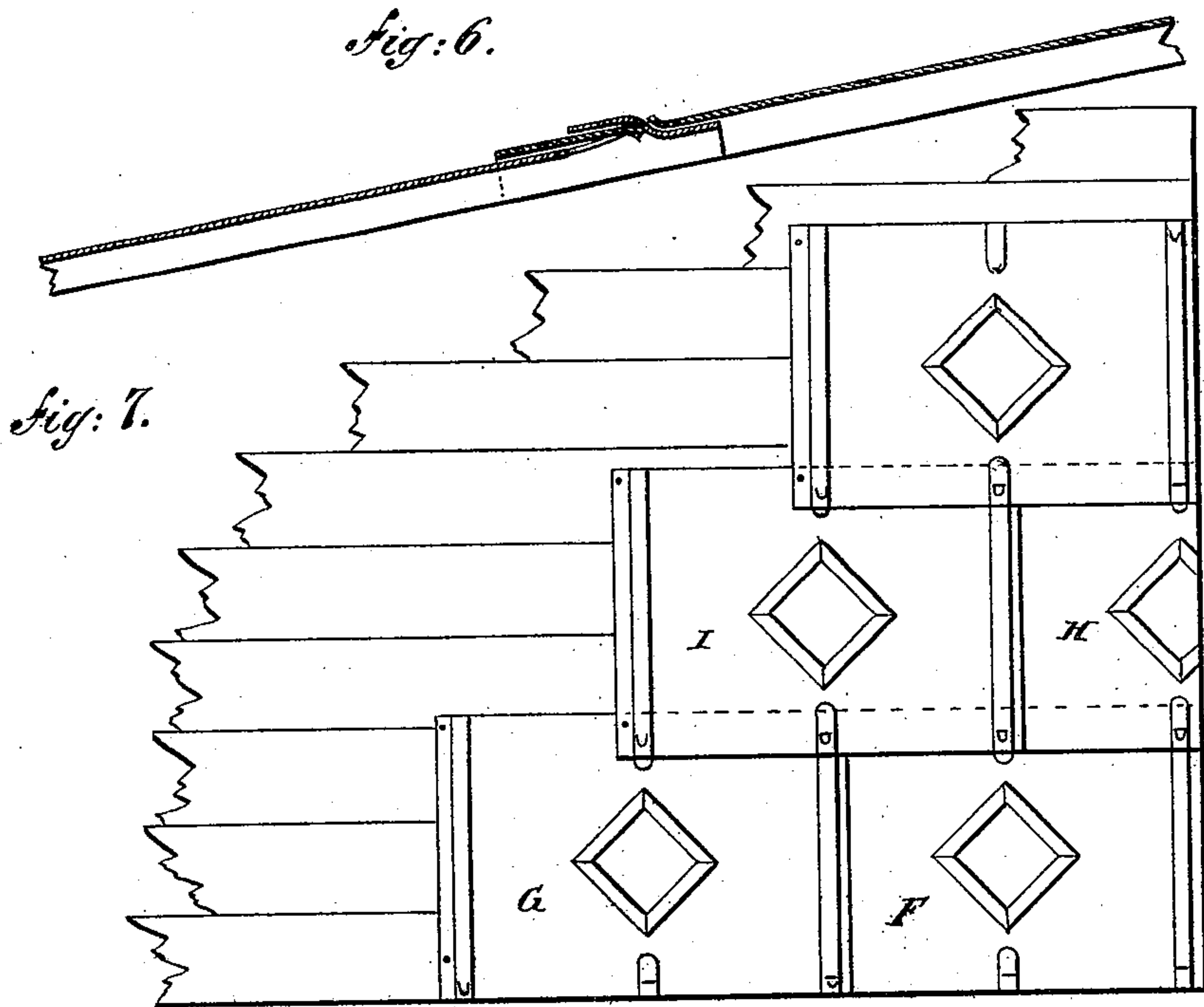
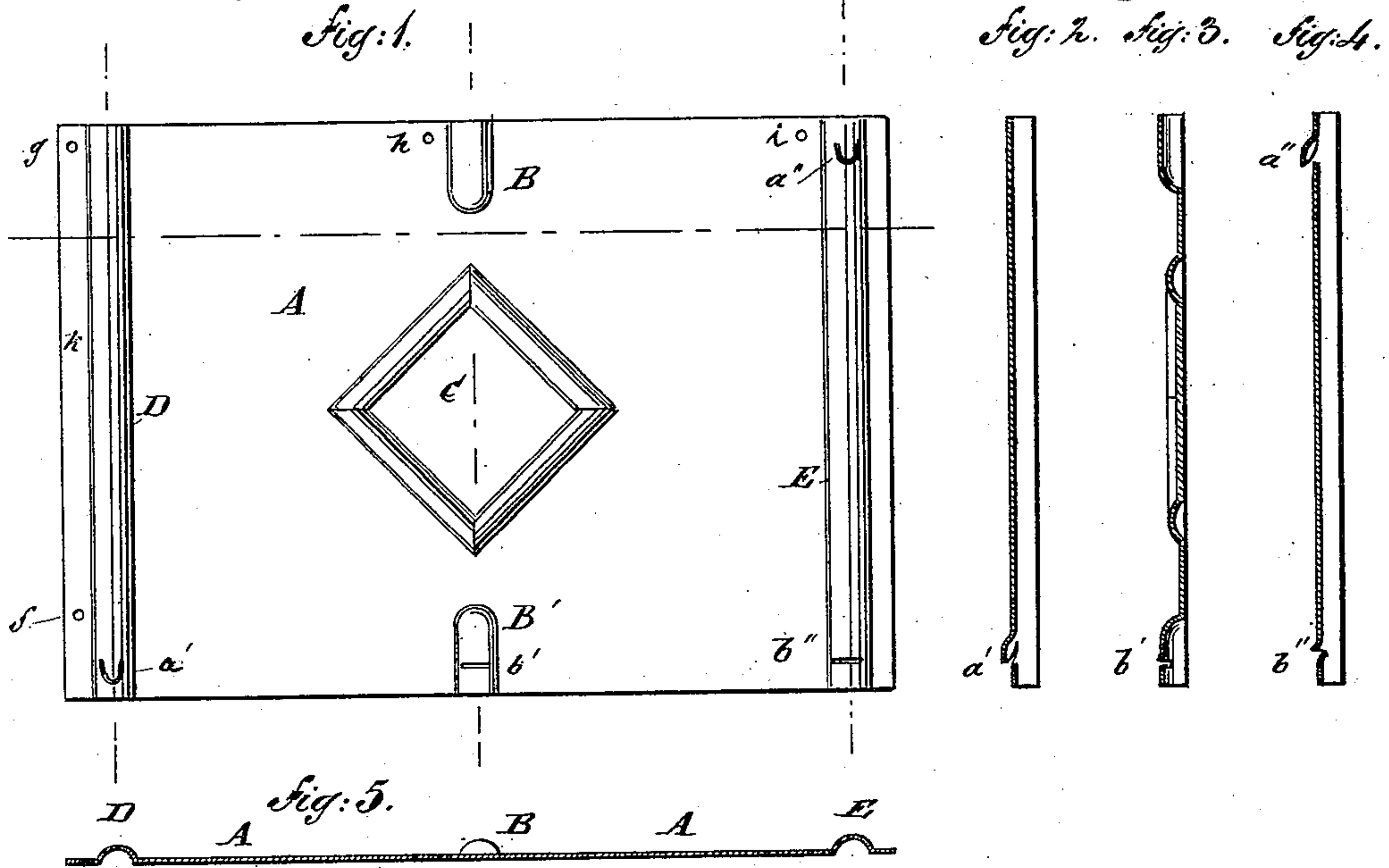


(No Model.)

H. S. NORTROP.
METALLIC ROOFING SHINGLES.

No. 246,542.

Patented Aug. 30, 1881.



WITNESSES:

Chas. Nida.
C. Sedgwick

INVENTOR:

H. S. Northrop
BY *Munn Ho*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY S. NORTHROP, OF PITTSBURG, PENNSYLVANIA.

METALLIC ROOFING-SHINGLE.

SPECIFICATION forming part of Letters Patent No. 246,542, dated August 30, 1881.

Application filed January 15, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. NORTHROP, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Metallic Roofing-Shingles, of which the following is a specification.

Figure 1 is a plan of one of my shingles. Figs. 2, 3, and 4 are sections of the same through the ribs, showing the lips and slots. Fig. 5 is an end view. Fig. 6 is a detail showing the manner of uniting the shingles, and Fig. 7 a plan showing the manner of placing the shingles on the roof.

Similar letters of reference indicate corresponding parts.

My invention relates to sheet-metal shingles which are to be secured to the roofs of buildings with nails or similar fastenings, and it has for its object the construction of the shingles in such form that in laying them the edges may be united to form a water-tight joint without the labor of seaming, and the shingles fastened to the roof in such manner that the nail-heads will not be exposed to the weather.

The invention consists in making the shingles with a rib extending along each side of the shingle, and an ornamental device in the center terminating at the upper and lower edges in short ribs, which should be the length of the lap of the shingles, and providing the two side ribs with lips at opposite ends, and one of the side ribs and one of the short ribs at the center with slots to match the tongues; also in placing nail-holes in the shingles in such relation to the tongues and slots in the ribs that the part of the sheet next the tongues will be securely fastened and the fastening will not be exposed to the weather when placed on the roof.

In the drawings, A represents a single shingle or sheet of roofing formed with the side ribs, D and E, and with the short ribs B B'. The center may be left flat or be ornamented with a device, c, in the center of the plate, as shown.

Near the end of one of the side ribs—say D—and at the opposite end of the other side rib, are formed the tongues *a'* and *a''*, preferably made by cutting a U-shaped slot in the top of the

ribs or corrugations and raising the lip outward.

In the short rib B' and the side rib, E, at the same distance from the lower end as the tongue *a'*, are formed the slots *b' b''*. Nail-holes *f* and *g* are formed in the flange *k*, and the nail-holes *h* and *i* are made near the upper edge of the sheet and near the ribs B and E.

In laying the shingles the sheet F is first placed at one corner of the eave of the roof and nailed through holes *f* and *i*. The plate G is now laid, the rib E lapping over the rib D of the shingle F, with the tongue *a'* passing through the slot *b'* of the rib E. The plate G is now nailed through holes *f* and *i*, the nail in *i* passing through the hole *g* in the first plate, F. The next sheet is now to be laid and nailed as before, and so on through the first course. The next course above is begun with a half-sheet, H, the corner of it which carries the short rib B' having the slot *b'*, being held by the tongue *a''* of the plate F passing through the slot and being clinched down. The plate H is now nailed through the holes *f* and *i*. The nail which passes through hole *f* also goes through hole *h* of the first plate, F. The sheet I is then laid, the tongue *a'* of the previous sheet passing through the slot *b''*, and the tongue *a''* of the second sheet, G, passing through the slot *b'* of the plate I. The sheet I is then nailed through holes *f* and *i*. It will thus be seen that the upper edge of each sheet is held down by nails the heads of which are covered by the lower edge of the succeeding sheet above, and that the corners covering the nails are held secure by the clinching of the tongues passing through the slot therein; that the rib B' of each sheet is held down by the connection of its slot *b'* with the tongue *a''* of the next sheet below, which is itself secured by the covered nail passing through the hole *i*. It will also be seen that the short rib B fills the opening of the ribs D and E of the sheet above, and that the rib B' covers the ribs of the two sheets below.

The short ribs or the ornament, or both of them, might be omitted, the shingle being practically complete with only the side ribs; but the form shown is preferred.

Having thus fully described my invention, I

claim as new and desire to secure by Letters Patent—

1. In sheet-metal roofing, two adjacent plates, F G, connected by a tongue, *a'*, and slot *b''* on
5 their respective side ribs, D E, as shown and described.

2. In sheet-metal roofing, a half-plate, H, connected with a whole plate, F, by a short rib, B', having a slot, *b'*, and a side rib on plate
10 F, having the tongue *a''*, as shown and described.

3. A sheet-metal shingle formed with side ribs and center ribs, the side ribs being provided, one at the upper and one at the lower end, with lips, and the center rib and one side rib
15 having slots, substantially as and for the purpose set forth.

HENRY S. NORTHROP.

Witnesses:

WALTER MORRIS,
JAMES ATKINSON.