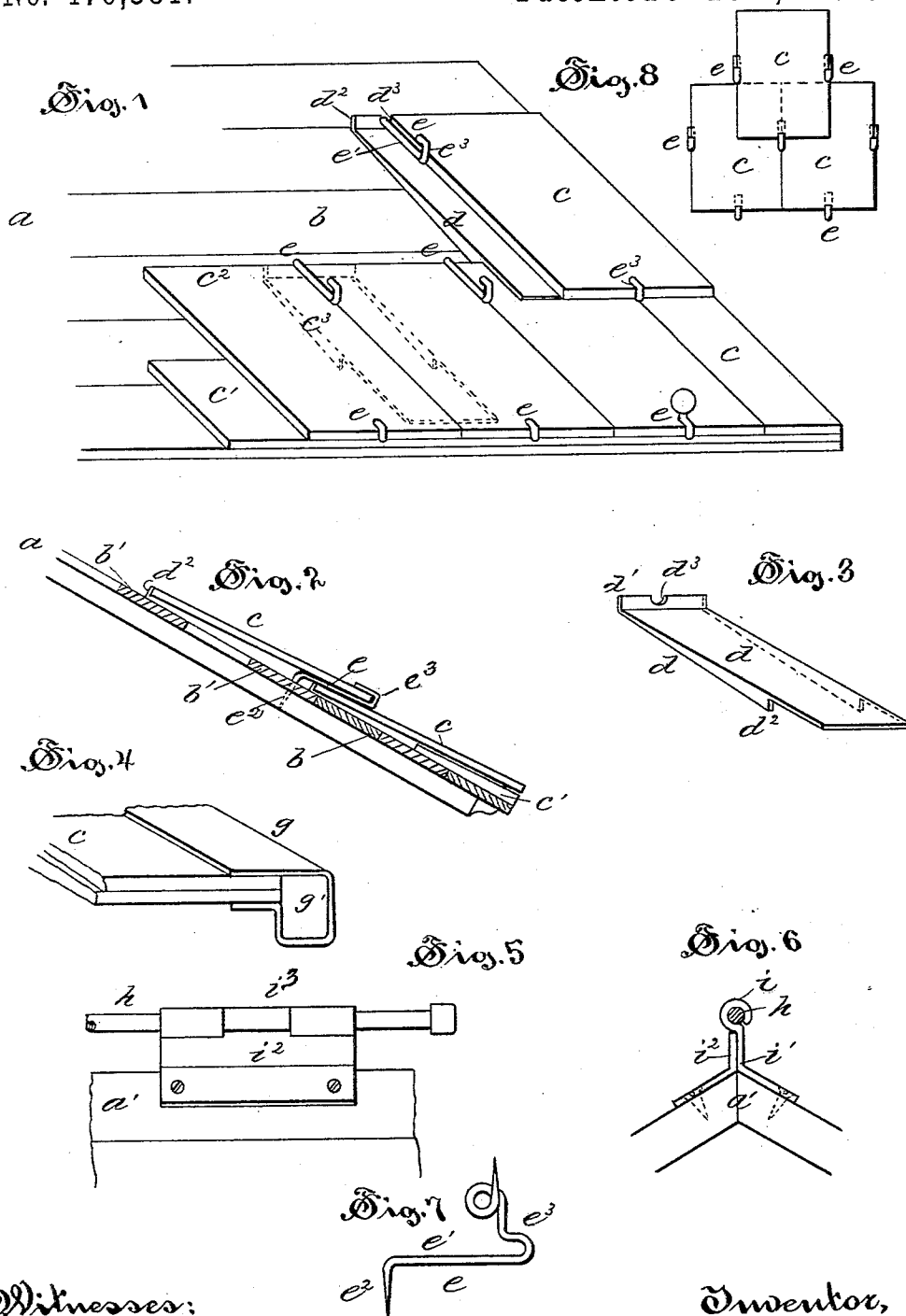


(No Model.)

S. R. HAWTHORNE.
ROOF.

No. 476,381.

Patented June 7, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

SAMUEL R. HAWTHORNE, OF MIDDLEBURY, VERMONT.

ROOF.

SPECIFICATION forming part of Letters Patent No. 476,381, dated June 7, 1892.

Application filed June 7, 1890. Serial No. 354,659. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. HAWTHORNE, of Middlebury, in the county of Addison and State of Vermont, have invented certain new and useful Improvements in Roofs, of which the following is a full, clear, and exact description, whereby any one skilled in the art can make and use the same.

The object of my invention is to provide devices that may be so arranged as to enable a slater to cover more surface with a given number of slates by the practice of my invention than is possible with any prior method or fastening; and a further object is to provide devices for better protecting the slated roof from stress of weather and against injury and wear.

My invention consists in the novel construction of parts and their combination, as will be hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a detail perspective view of a part of a roof, illustrating the manner of laying the slates and securing them. Fig. 2 is a detail edge view of the same. Fig. 3 is a detail perspective view of a bib. Fig. 4 is a detail perspective view of a part of the edge of a roof, showing the eaves-protector. Fig. 5 is a detail view of the crest-rail fastening. Fig. 6 is a detail end view of the same. Fig. 7 is a detail plan view illustrating a modified form of employing the fastening-hooks. Fig. 8 is a view showing the arrangement of the under laps or eaves course.

In the accompanying drawings, the letter *a* denotes a portion of a roof; *b*, the roof-covering, usually of boards nailed onto the rafters, and *c* the slates.

In the practice of one feature of my invention I first lay the under lap or eaves course *c'* of short slate, and then lay on a bib *d*, that is placed in such a position that it extends beyond the upper edge *c''* of the eaves course, as indicated at *c³*, in dotted outline in Fig. 1 of the drawings. This bib is made of a thin sheet of metal with an upturned edge *d'*, and having a shoulder *d''* at some distance from the lower edge of the bib, this shoulder being formed by turning down the edge of the thin metal of which the bib may be formed, or being otherwise made. There is preferably formed in the upturned edge *d'* a socket or

opening *d³*, in which the shank of a fastener *e* lies, as illustrated in the drawings. This bib may be formed of any convenient metal, as lead, copper, or zinc, and is preferably made from thin sheet metal, with the downturned flange extending a portion of the way along both edges, as illustrated in Fig. 3.

The object of the bib is to form a stop for the upper edge of the slate, to pack the joint between the slates, and also to support the slate where it extends from its bearing at its lap on one course to its bearing on the roof near the upper edge of the slate.

The fastener *e* is formed of metal, preferably a wire, although its shape in cross-section is immaterial. The shank *e'* of the fastener terminates at one end with a downturned sharpened point *e''* and at the other in a hook *e³*, the fastener being secured to the roof by driving the sharpened end into the board in such manner that the shank lies along the roof and the hook projects up in such position that the lower edge of a slate can be thrust into it and held.

The bib *d*, that serves the purpose of a lining-strip and gage for locating the slate, is held from sidewise movement by the contact of the shoulder *d''* with the upper edge of a course of slate and also with the fastener that extends over the upper edge of the bib, and lies in such position that its hooked end projects up between two adjacent slates in the joint between them, and care is taken that the hooked ends of the fasteners terminate on a line parallel with the upper edge of the course of slates. The next course of slates is then laid, after the bibs and the next row of hooks are secured in place, by thrusting the lower edge of the slate into engagement with the hooked end of the fastener and arranging the upper edge so as to bear on the flange *d'* at the upper edge of the bib. When slates are so laid, one of them can be removed readily by driving slightly upward and lifting its lower edge out of engagement with the hook, the fastener being made, preferably, of somewhat resilient wire or metallic strip, so that the tendency of the fastener is to hold a slate close down upon the underlying course, which its lower end overlaps.

Instead of providing the bib with downturned flanges a wedge-shaped backing-strip

of wood may be placed underneath it and serve the purpose of a support when the bib is made of extremely-thin metal.

It is of advantage in some cases to have the boarding of the roof laid in strips b' at an interval less than the length of a slate, so that the latter may be laid and rest upon two adjacent strips. The hook is driven in one of the strips, and the bib extends over that strip across the open space between the strips onto the next one below, where it overlaps the next previous row of slates, as described. The object of providing open intervals between the strips is to so ventilate the roof as to keep the slates cooler than is possible where they are laid on a tight board covering. The object of this is to prevent the melting of snow and ice by reason of any heat communicating from the room immediately below the roof.

In order to prevent the storms from driving in under the edges of the slates, I provide a protector g , that is made, preferably, of metal, as copper, with one edge inserted under the edges of the slate and extending along the edge of the roof. The protector is bent downward and then upward and back again, so as to overlie the edge of the slates, in which position it is fastened, as by driving nail through and through the material into the roofing. A channel g' is thus formed along the edge, and its lower end may be connected with the conductor or eaves-trough, into which any water which accumulates in the protector may flow.

At the ridge a' the roof is provided with a crest-rod h , held on a bracket or support i , that is made of two pieces of metal i' i'' . The piece i' has a central part i^3 , bent to form a tubular socket to embrace the crest-rod h , and the piece i'' is provided with two strips or extensions at its upper edge arranged to lie on opposite sides of the projection from the

piece i'' , but turned in the opposite direction to form the tubular part that embraces the rod. In such a clamping device the rod h is securely held in position as soon as the brackets are fastened to the roof.

The hooked end of the fastener may have an upturned part, forming of itself a species of snow-guard to prevent the snow and ice from sliding downward on the roof, or this upturned extension of the hook may form the direct support for a separate guard that is slipped upon it.

It will be perceived that by the use of the fastening-hook, as shown in Fig. 8 of the drawings, each slate is secured on at least three sides by the hook, the shank lying between or just below the level of the slates with the hooked end rising between the slates in any given course in proper position to engage the lower edge of the slate of the next course above that breaks joint with the lower course. The slates are securely held, so that neither one of them can be removed, the upper course of slates abutting at their upper edge against the edge of the ridge-pole or crest-board.

I claim as my invention--

1. In combination with a roof-covering composed of boarding and slate, the improved bib made of thin metal with one end having an upturned flange and provided at its sides with downturned flanges terminating in a shoulder, all substantially as described.

2. In a roofing, in combination with the slate-fastening devices and slates, the two-part bracket i , having the interlocking tubular arms forming the rail socket and fastening, all substantially as described.

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Witnesses:

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