

(No Model.)

G. F. ULLMANN.
ROOF.

No. 485,516.

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Fig. 1.

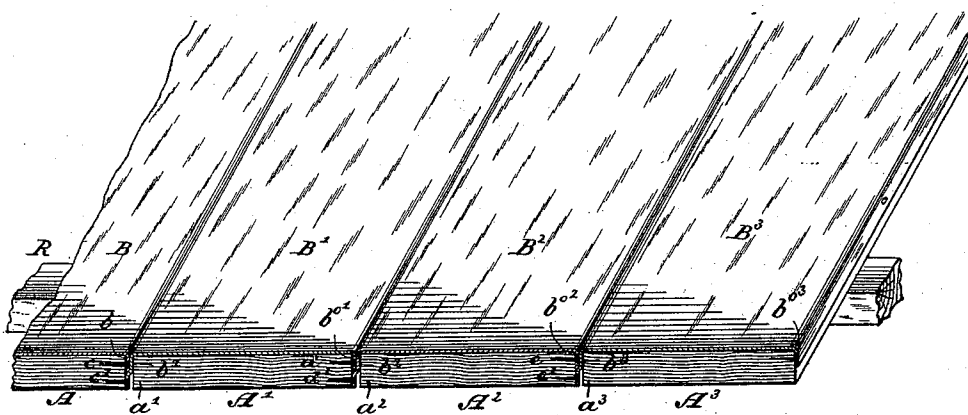
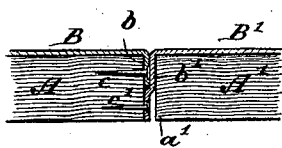


Fig. 2.



WITNESSES:

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SPECIFICATION forming part of Letters Patent No. 485,516, dated November 1, 1892.

Application filed May 16, 1892. Serial No. 433,205. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. ULLMANN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Roofs, of which the following is a specification.

The object of this invention is a roof in which the sheet-metal plates are connected to the roofing-boards in such a manner that the roofing-boards are left free to expand or contract without producing an injurious effect upon the seams of the metal plates.

In the accompanying drawings, Figure 1 represents a perspective view of a portion of a roof constructed according to my invention. Fig. 2 is a section of two roofing-boards detached, showing the manner of attaching the sheet-metal plates on a larger scale than the previous figure.

In the drawings, the letters $A A' A^2 A^3$ designate a series of roofing-boards, which are supported by and attached to the rafters R in any suitable manner, and $B B' B^2 B^3$ are a series of sheet-metal plates, which are secured to the roofing-boards in the following manner: The flange b , formed on the plate B , is attached to the edge of the board A by tacks c , and the flange b' , formed on one side of the plate B' , is attached to the same edge

of the board A by tacks c' . The flange b^{01} , formed on the opposite side of the plate B' , is attached to the board A' by tacks d , and the flange b^2 of the plate B^2 is attached to the board A' by tacks d' . In the same manner the flange b^{02} , formed on the plate B^2 , is attached to the board A^2 by tacks e , and the flange b^3 of the plate B^3 is attached to the board A^2 by tacks e' . From this description it will be understood that the edges $a' a^2 a^3$ of the boards $A' A^2 A^3$ respectively remain detached from the plates, and consequently the seams between the plates $B B', B' B^2$, and $B^2 B^3$ are not affected by the expansion or contraction of the boards $A A' A^2 A^3$.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, with the roofing-boards $A A' A^2 A^3$, of sheet-metal plates $B B' B^2 B^3$, secured to the successive roofing-boards at one edge of each board, leaving one edge of each board detached from said plates, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

GEORGE F. ULLMANN.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.