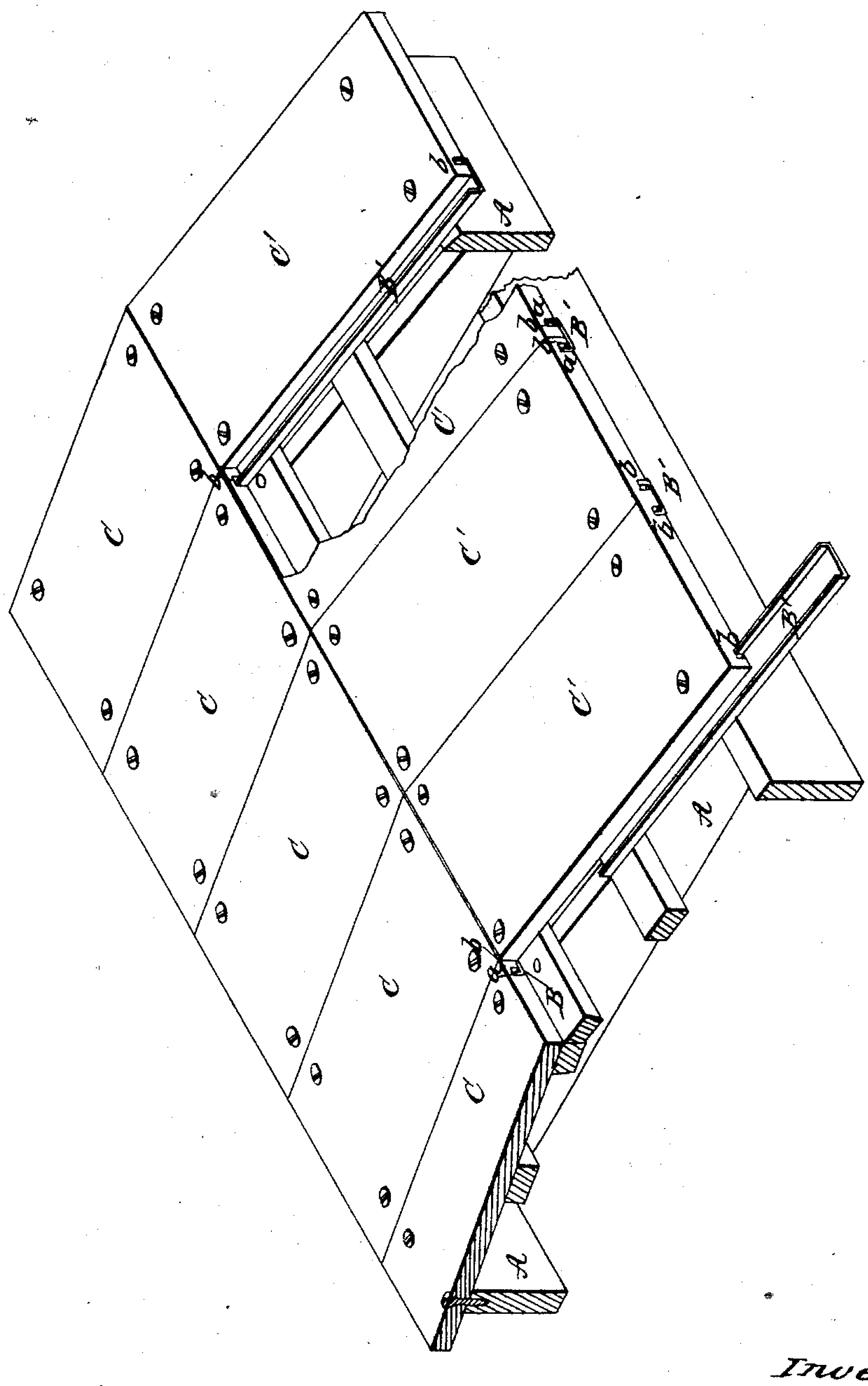
E. U. Benedict.

Batten Roof.

No. 37,211. Patented Dec. 23, 1862.



Witnesses,
Gustave Dieterich
D. C. Lawrence

Inventor,
Elias U. Benedict
by his Attys
Mason, Fenwick & Lawrence

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

ELIAS U. BENEDICT, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN METALLIC AND WOODEN ROOFS.

Specification forming part of Letters Patent No. **37,211**, dated December 23, 1862.

To all whom it may concern:

Be it known that I, ELIAS U. BENEDICT, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Combined Wood and Metal Roofs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Fig. 1 is a perspective sectional view of a roof with one portion of the surface-covering removed, showing my invention and illustrating the manner of drawing out the leak-gutters.

The same letters of reference in the several figures indicate corresponding parts.

My invention does not consist in metal gutters, *per se*, in connection with wood roofs, but it consists in a peculiar manner of adapting metallic leak-gutters and single tiers of boards for use together, whereby the joints of the roof are closed water-tight and the water conducted to the eaves of the roof, the metal gutters and the roofing-boards tongued and grooved together, the boards allowed a chance to shrink or swell without disturbing the gutters in so doing, and, finally, the gutters may be withdrawn and cleaned out and again replaced without requiring the boards to be taken off.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawing.

A represents the foundation of a double-slant or gable roof. This foundation is made up of rafters and longitudinal strips, connected together by end and finishing timbers. The comb of the foundation is broad enough to form a support for the uppermost meeting ends of the roof-coving boards.

B B′ are zinc gutters with deep perpendicular sides. These gutters are arranged on the rafters and strips so that those B incline from the comb of the roof in one direction, and those B′ in an opposite direction. The uppermost ends of the two sets of gutters abut against one another, while the lowermost ends extend beyond and overhang the side-finishing timbers of the foundation of the roof.

C C′ are the boards for forming the roof proper. These boards are each furnished with groove *a a* on their under side, near their jointing-edges. Said grooves are very much wider than the thickness of the metal, and extend from end to end of the boards. The boards thus constructed are placed upon the foundation so that the perpendicular sides of the gutters enter the grooves *a a*, as represented, and are then screwed, clamped, or otherwise properly fastened to the comb and side finishing-pieces of the foundation. No nails or screws pass down through the gutters. Thus placing the boards upon the foundation secures a lateral tonguing and grooving together of the gutters and boards, and at the same time the bottoms of the gutters close the leak-joints of the roof. The tongue-and-groove connection is such that a lateral space, *b*, exists between the sides of the grooves in the boards and the perpendicular sides of the gutters, while the upper edge of the perpendicular sides and the top of the grooves make a close fit between one another. The spaces *b* thus left between the gutters and the boards allow the boards every necessary freedom to shrink and swell, accordingly as the weather may affect them. These spaces also form channels along which the leak-water may pass to the eaves of the roof. In case the gutters should require cleaning out, they can readily be withdrawn by taking hold of them at the eaves of the roof. Before withdrawing the gutters it may be necessary to slacken up the screws or fasteners of the boards, in order that the gutters shall slip out easily. If it should be necessary to substitute new gutters in place of those which have become worn out, it can be readily done without taking off the roofing All that is necessary is to withdraw the old gutters and insert the new ones.

My invention is very important in the construction of board roofs, and its additional cost is but very small.

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

The combination of gutters made of metal, and substantially as described, with the joints and enlarged grooves of the board roof, the gutters being capable of being withdrawn, and the boards capable of shrinking or swelling independent of the gutters, all substantially as and for the purposes set forth.

ELIAS U. BENEDICT.

Witnesses:

ALLEN MAUVEL,

J. F. PHILLIPS.