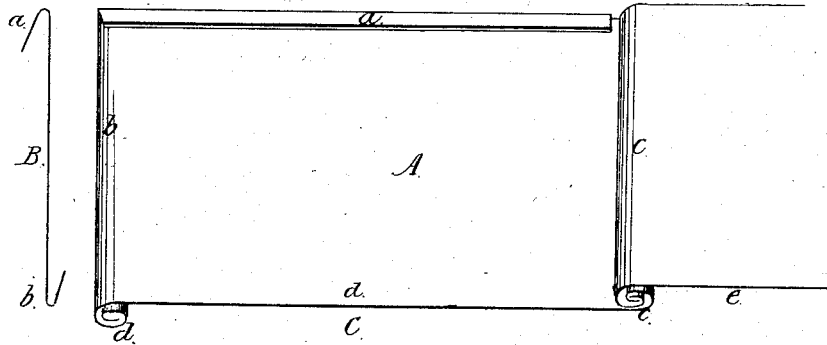
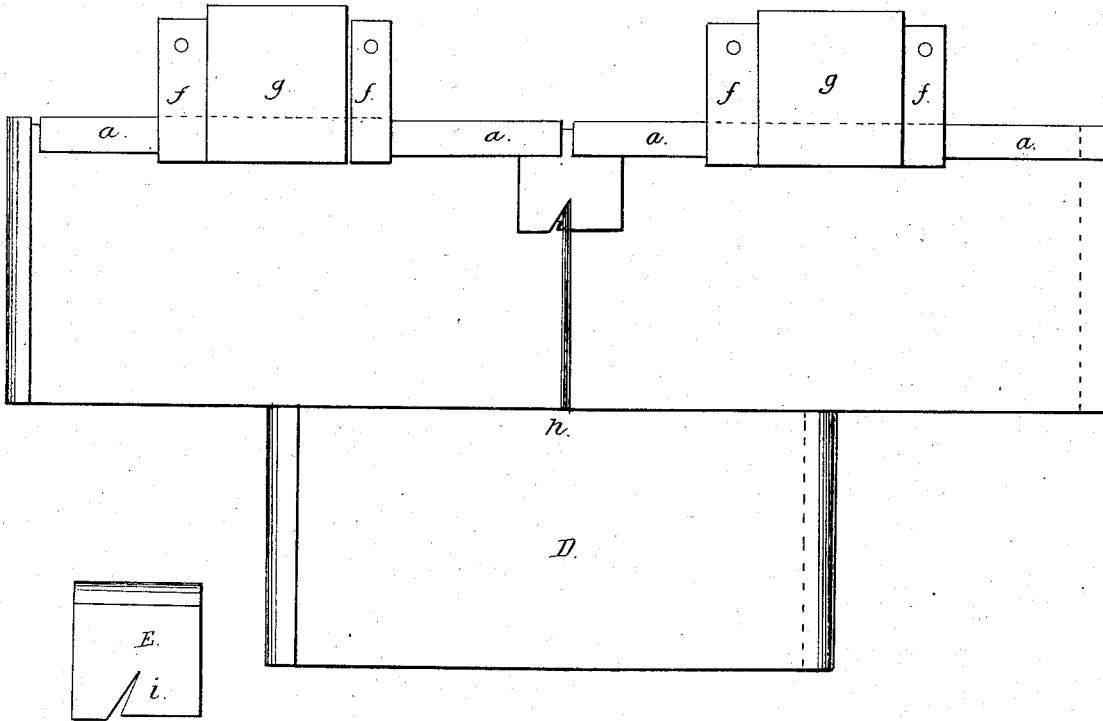


*J. B. Duval.*

*Metallic Roof.*

*N<sup>o</sup> 933.*

*Patented Sept. 19, 1838.*



# UNITED STATES PATENT OFFICE.

J. B. DUVAL, OF CHARLESTON, SOUTH CAROLINA.

## MODE OF COVERING THE ROOFS OF BUILDINGS WITH TIN-PLATE OR OTHER METAL.

Specification of Letters Patent No. 933, dated September 19, 1838.

*To all whom it may concern:*

Be it known that I, JOHN B. DUVAL, of the city of Charleston, in the State of South Carolina, have invented certain Improvements in the Mode of Covering the Roofs of Buildings with Tin-Plate and other Thin Sheets of Metal; and I do hereby declare that the following is a full and exact description thereof.

The object of my improvement is to lay on the tin plate in such a manner as shall allow a free expansion and contraction to the metal, while the whole covering is effected without the use of solder in any part, or the driving of nails through any of that portion of the tin which constitutes the covering.

I am aware that tin plate, and other metals, have been used as covering for houses in a manner somewhat analogous to that which I am about to describe; but I have made certain improvements in the mode of procedure, by which the desired object is attained more simply and effectively than heretofore.

In the accompanying drawing, A, represents one of the sheets of tin plate, the upper edge of which is turned over toward the face of the plate, and the lower edge *b*, is turned back in the same manner, a section from top to bottom appearing as at B. The ends *c*, *d*, of the plate have a double turn, at *e*, *d*, a section from *e*, to *d*, appearing as at C. When these sheets are put together the coiled ends are to be slipped into each other, as shown in the section, C, where the coil upon the end of the piece *e*, is seen as slipped into the coil *e*. In this manner the respective sheets are all connected together lengthwise. The laps at the upper and lower edges serve to connect them widthwise, in a manner which will be obvious, as it is in the common manner of joining tin plate by seaming there are, however, certain important provisions in the mode of doing this as invented by me.

In Figure D, *f*, *f*, are straps which are turned under at bottom so as to hook into the lap, *a*, *a*, and these straps are nailed into the plank with which the roof is covered, and constitute the only fastening of the tin

plate thereto; *g*, *g*, are wider straps, which are attached to the tin plates in the same manner; but these are not to be nailed to the planking, their office being to support the tin plate which is to be hooked into the lap above the straps *f*, and *g*. These are to be put together breaking joints, as at *h*, at the junction of each plate there is to be a small piece of tin, cut square, as shown at E; this is to be slit by the shears at *i*, and the point *i*, is to pass under the double lap which connects the plates endwise, as shown at *i*, Fig. D, its upper edge passing under the lap *a*, *a*; this piece effectually secures the only part of the connection of the respective plates where leakage might be apprehended. These small plates may, if preferred, be touched with the soldering iron, so as to attach them to one plate only, and remove all danger of their working loose by the expansion and contraction of the metal, with which they will not interfere in the slightest degree.

The entire procedure in connecting the respective plates with each other, and with the wood work of the roof, has been thus fully explained, excepting that it remains to remark, that after uniting the plates together, the seams are all to be beaten down by a mallet, and the operation is completed. The difference between my mode of procedure, and those in which the edges of the tin are curved up, and slit tubing is passed over them, or other analogous means allowing for expansion and contraction, will be apparent, as I allow for it effectually with all the seams closed down by the mallet.

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

The combining together of the several sheets which are to constitute the covering of a roof, as above set forth; that is to say, the combining of the double seaming of the ends, with the mode of employing the straps on the edges for fastening and sustaining the sheets, and the pieces E, for securing the joinings, as set forth.

J. B. DUVAL.

Witnesses:

C. H. ALLLBERGER,  
N. F. PETTIT.