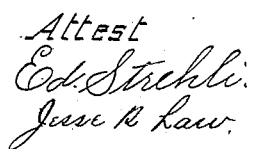


L. L. SAGENDORPH.
METALLIC ROOFING.

Patented Dec. 24, 1889.



Inventor
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UNITED STATES PATENT OFFICE.

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METALLIC ROOFING.

SPECIFICATION forming part of Letters Patent No. 417,946, dated December 24, 1889.

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To all whom it may concern:

Be it known that I, LONGLEY LEWIS SAGENDORPH, a citizen of the United States, residing at Cincinnati, in the county of Hamilton, State of Ohio, have invented certain Improvements in Metallic Roofing, of which the following is a specification, reference being had to the accompanying drawings.

The objects of my invention are, first, to provide an efficient and effectual means for locking the roofing-plates together in parallel rows, the one plate overlapping the next succeeding lower plate, and, secondly, to provide a water-break for the overlapping end portions of the plates, as will more fully herein-after appear.

In the accompanying drawings, Figure 1 is a cross-section of a roofing-plate on an enlarged scale, showing the left-hand side of said plate locked into the anchor-cleat. Fig. 2 is a section taken at line 2 2 of Fig. 5 on an enlarged scale. Fig. 3 is a section, on an enlarged scale, taken at dotted line 3 3, Fig. 5. Fig. 4 is a section taken at line 4 4 of Fig. 5 on an enlarged scale, the interlocking flange of the top sheet being cut away to permit said plate to fit over the cap of the next lower plate. Fig. 5 is a plan view, on a diminished scale, of a portion of a roof constructed after my invention. Fig. 6 is a section taken at line 6 6, Fig. 5, through the water-break. Fig. 7 is a top view, on an enlarged scale, of the lower left-hand corner of a roofing-plate, showing at termination of dotted lines when the interlocking flange is cut away in order to permit the top plate to overlap the next lower plate.

Each sheet or plate A is provided at one side with the flanged portions $a a'$, converging at an angle, forming the horizontal cap A' along one side of the plate, and at the other side the plate is provided with the flanged portions $b b'$, and also with an inward interlocking flange b^2 , as shown at left hand in Fig. 1, the two flanges $b b'$ converging and forming the horizontal cap A^2 along this side of the plate.

While it is preferred to have the flanged portions $a a'$ and $b b'$ converge at an angle, as shown, said portions may be rounded to form a cap at each side the plates, in order to

provide a standing seam circular in cross-section.

The afore-described roofing-plates A are secured to the sheeting in the following preferable manner: An anchor-cleat D, having the flanged portions $d d'$ and nailing-flange d^2 , is provided, said portions $d d'$ converging in a manner similar to the flanged portions $a a' b b'$ of the roofing-plate. This anchor-cleat D is in one continuous piece or a number of pieces so united as to form a continuous cleat, which is first secured to the sheeting along and up the left-hand side of the roof. Having secured the cleat to place, the first row of plates are locked thereto by engaging the flanged portions $b' b^2$ of the plate over the flange d' of the cleat, as shown at left hand in Fig. 1. This operation is readily accomplished by holding the right-hand side of the plate up at an angle to make the connection, after which the plate is lowered to place on the sheeting, the cap A^2 of the plate fitting over the cap of the cleat. Having secured one continuous overlapping row of plates in position in the manner just described, a second cleat D is nailed to the sheeting in such a manner as that the flanged portions $d d'$ will fit over the cap A' at right-hand side of plate, as shown in Fig. 1. This operation completes the laying of one row of plates and securing them to place. The next adjacent parallel row of overlapping plates are secured to place by engaging the flanges $b' b^2$ over the flange d' of the cleat, as shown in Fig. 3, in a manner similar to that already described. Each parallel row of roofing-plates are locked in this manner to the anchor-cleat until the roof is complete. The interlocking flange b^2 of each plate is cut away at the lower left-hand corner, as shown by termination of dotted lines in Fig. 7, and also in section, Fig. 4, in order to permit the cap A^2 of the top plate to fit snugly over the corresponding cap of the next lower plate.

It will be readily seen that by the above construction I am enabled to lay parallel rows of overlapping plates in such a manner as that one row of plates will break the joints of its adjacent row of plates, which greatly assists to strengthen the roof.

In connection with the above construction

I have provided the following preferable form of water-break for the overlapping end portions of the plates, viz: Each plate is so stamped as to form the raised bead e , extending across the plate for its greater width near its end portions, a Λ -shaped raised bead e' and the short raised beads e^2 at each side of the Λ -shaped bead, said beads e , e' , and e^2 at the lower end portion of the plate being the reverse in position to those at the top portion, in order that the said beads at lower end of plate (which are slightly larger than those at the top) may fit over and engage the top beads of the next lower plate. The object of this construction of water-break is to more effectually prevent any water from being blown or otherwise entering between the overlapping end portions of the plates.

The advantages of my improved roof are apparent.

The construction of the anchor-cleat and side flanges of the plate are such that a perfectly water-tight standing seam is afforded, which will accommodate itself to any expansion or contraction of the plates.

The facility for alternately breaking joints of adjacent rows of parallel plates over the standing seam is a great advantage to strengthen the roof.

Another advantage consists in providing a water-break for the overlapping rows of parallel plates irrespective of the position of said water-breaks on any one row, which I am enabled to do by the afore-described construction.

While it is preferred to use the form of water-break shown in connection with the means herein shown for locking the plates, said water-break may be used in connection

with other locking devices, or said locking device may be used independently of the water-break.

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

1. In a metallic roof, the means, substantially as set forth, for retaining the roofing-plates in position, consisting of an anchor-cleat nailed to the sheeting, said cleat having a hooked flange engaged between the two flanges b' b^2 of the roofing-plate for its entire length, substantially as set forth.

2. A metallic roof consisting of an anchor cleat or cleats having the flanged portions d d' and nailing-flange d^2 and the roofing-plates A , one side of each plate having the compound flanges b , b' , and b^2 , the other side of said plate having the flanges a a' , the flange b^2 being cut away at the overlapping portion, the flange d' of one side cleat engaging between the flanges b' b^2 for their entire length, the flange d' of the other side cleat overlapping the cap A' for its entire length, substantially as set forth.

3. A metallic roof consisting of overlapping plates, the sides of said plates being retained to place by means of separable flanged cleats, the latter being nailed to the sheeting with the flanged part overlapping the side flange of one plate for its entire length and engaging the double flange on the side of the adjacent plate, the overlapping portions of said plates being provided with suitable beaded water-breaks, substantially as set forth.

LONGLEY LEWIS SAGENDORPH.

Witnesses:

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