

(No Model.)

W. W. TURNER.
ROOF,

No. 571,417.

Patented Nov. 17, 1896.

Fig. 1.

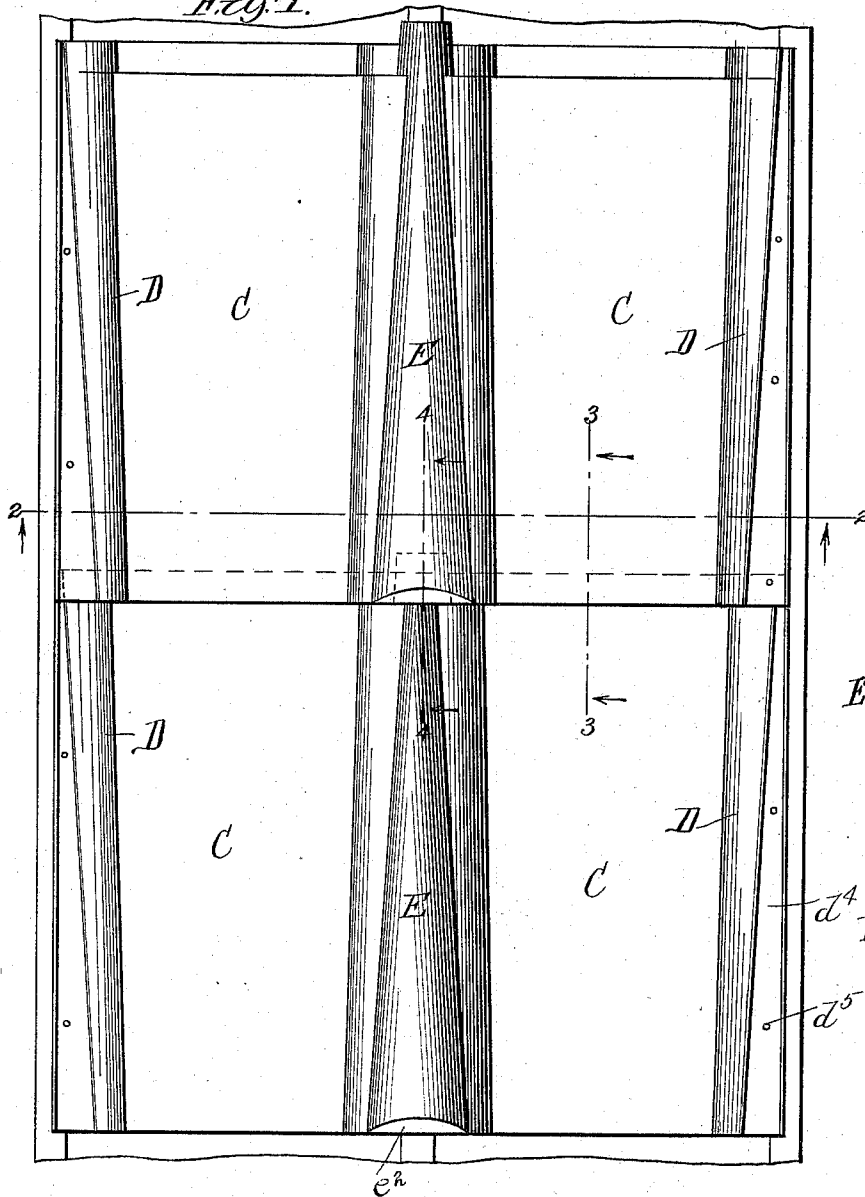


Fig. 3.

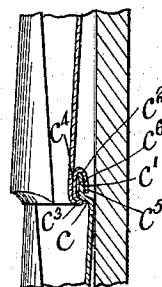


Fig. 4.

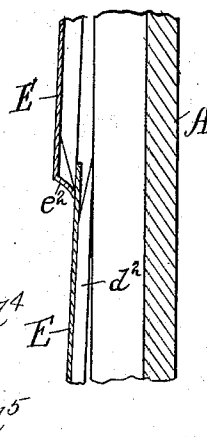
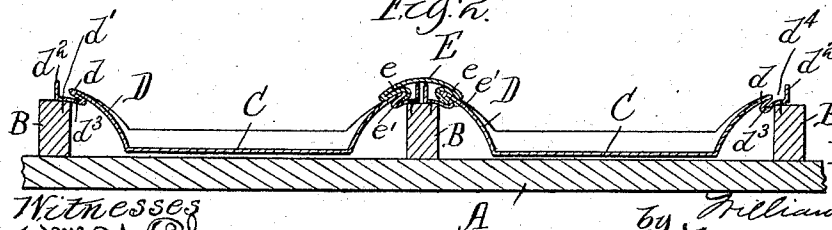


Fig. 2.



Inventor.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM W. TURNER, OF CHICAGO, ILLINOIS.

ROOF.

SPECIFICATION forming part of Letters Patent No. 571,417, dated November 17, 1896.

Application filed February 23, 1895. Serial No. 539,348. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. TURNER, a citizen of the United States, residing at Chicago, county of Cook, State of Illinois, have invented a certain new and useful Improvement in Roofs, (Case B;) and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object the production of a metallic roof of that class in which a series of metal sheets are engaged together to form a continuous metal covering for the body of the roof.

The invention consists in a combination of devices and appliances hereinafter described and claimed.

In the drawings, Figure 1 is a plan view of a section of the roof. Fig. 2 is a cross-section on the line 2 2 of Fig. 1, with the part exaggerated. Fig. 3 is a section on the line 3 3 of Fig. 1. Fig. 4 is a section on the line 4 4 of Fig. 1.

In carrying out the invention, A represents the main body of the roof; B, a series of strips extending lengthwise up and down the roof, preferably wooden strips, and engaged to the main body of the roof in any suitable manner, as, for instance, by nailing.

C represents the several individual sheets of metal composing the roof.

Referring to Fig. 2, I will now describe the particular construction of each sheet. The long edge of each sheet is bent upward, preferably of rounding shape, as at D, so that when joined to the adjacent sheet a semi-circular ridge is provided on the roof. The edge of this rounded portion is doubled back upon itself a short distance, as at d' , then is extended outward, as at d' , and bent upward, as at d^2 , thus forming a recess d^3 and a longitudinal channel d^4 . The latter is preferably wider at the lower end than at the upper, so that when the locking-strip is inserted, as hereinafter explained, it will be bound tightly in place. The horizontal portion d' is perforated, as at d^5 .

E is a locking or cap strip. It is tapered longitudinally, as shown in Fig. 1, and made

slightly concavo-convex, as shown in Fig. 2. The edges are doubled inwardly on themselves, as at e , and on the concave side, and then bent downwardly and outwardly, as at e' .

In laying the roof the strip B is substantially the height of the curved edge D of each sheet, and the edges of two sheets are brought adjacent to each other on the strip and nailed or otherwise engaged thereto through the perforations d^5 . The locking-strip E is then slipped onto and above these adjoining edges by moving it longitudinally and upwardly until the flanges e' engage in the recess d^3 . This, as will be seen, covers the adjoining edges of the sheets where they are engaged to the wooden strip and forms an absolutely water-tight joint. By virtue of the tapered shape of the edges the locking-strip is easily inserted and forced upward, but as the uppermost position is reached the tapering shape forces the locking-strip tightly into place and effectually binds it to the respective edges of the sheets. The lower end e^2 of the locking-strip is turned downward to form a tight fit over the upper end of the next lower strip.

Referring again to the individual sheets, Fig. 3, it will be noticed that the upper end c is turned upward and then outward, as at c' , and the extreme edge turned up again slightly, as at c^2 . Thus when the lower end of the sheet next above is placed in position this outer edge c^2 bears tightly against the under side of the sheet next above and prevents any leak by the water backing up. So, also, it will be observed that the lower edge c^3 is doubled upon itself, as at c^4 , and then bent back, as at c^5 , to form the recess c^6 . In this recess c^6 the end c^2 of the sheet next below is inserted. It will also be observed that after doubling, the edge c^3 is turned down slightly, so that when in position it overlaps the shoulder c of the sheet next below. These various flanges and shoulders, such as I have just described, so coact with each other as to allow for all expansion and contraction, while at the same time they effectually prevent any leakage either on the vertical or longitudinal joints or on the transverse or horizontal joints.

In laying the roof the wooden strips are first engaged to the body of the roof and then a sheet is placed on the roof with its edges resting on the wooden strips and engaged

- thereto by nailing or otherwise. Another sheet is then slipped downward from above so that the transverse or horizontal edges engage each other, as just described, and so on until one entire vertical section is laid, then another vertical section is begun, the edge of each sheet being brought onto the strip adjacent to the edge of the next horizontal sheet. A locking-strip is then slipped vertically into place with the upper end under the lower corners of the two sheets next above and the lower end of the locking-strip next above overlapping the upper end of locking-strip next below.
- 15 It will thus be seen that, if desired, the entire roof can be laid without the operator resting at all or at any time upon the complete work, since he can always work to one side thereof and vertically.
- 20 I would call attention to the fact that the recesses d^3 open away from the respective sheets and toward the adjacent sheet and slightly upward. By this construction, when the locking-strip is inserted and any pressure applied to the top thereof, instead of forcing the flanges e' of the locking-strip out of the recesses d^3 it forces them farther and more tightly in. So, also, it will be observed that the joint of the two sheets is above the wooden strip and at the highest elevation, thus removing it as far as possible from any subjection to water.

I make no claim herein to the construction shown in Fig. 3 of the drawings, such construction being claimed in my concurrently-pending application Serial No. 539,347; but

What I claim is—

1. In a roof the combination with the body thereof of a series of sheets engaged to said body, the longitudinal edge of each sheet being bent to form a longitudinal groove, and said edge being engaged to the body of the roof adjacent to the longitudinal edge of the next sheet and a locking and covering strip for covering said adjacent edges, said locking-strip provided on its under side with flanges which engage in the recesses of the respective sheets and thus cover the latter, substantially as described.
2. In a roof the combination with the body thereof provided with longitudinal strips of a series of sheets having their edges bent upward to a point above the strip on the roof, each edge bent upon itself to form a longitudinal recess on the under side and to form a horizontal nailing portion, each edge together with the edge of the adjacent sheet being engaged to the strip by nailing or otherwise to said longitudinal portion, and a cov-

ering-strip provided with flanges on its under side adapted to simultaneously engage in a recess on each of the adjacent sheets, substantially as described.

3. In a roof the combination with the body thereof provided with longitudinal strips of a series of sheets having their edges bent upward to the heights of the strip on the roof, each edge bent on itself to form a longitudinal recess which opens away from the body of the sheet, and a covering-strip provided with flanges on its under side adapted to substantially engage in a recess on each of the adjacent sheets, substantially as described.

4. In a roof the combination with the body thereof and the longitudinal strips thereon of a series of metal sheets, the longitudinal edges of which are curved upward to the height of the strip, each longitudinal edge being bent upon itself and then extended outward thus forming a recess and a covering-strip of concavo-convex shape provided on the concave side with two longitudinal ridges or flanges adapted to engage simultaneously in the recesses of the adjacent edges of the sheets, substantially as described.

5. In a roof the combination of two or more sheets each having its longitudinal edges doubled upon them so as to form outwardly-opening recesses, tapered from top to bottom, and a locking-strip, having flanges on the under side to engage said recesses, said strip correspondingly tapered from a wide base to a narrowed top, substantially as described.

6. A metallic sheet for a roof consisting of a flat portion having each longitudinal edge turned upward and outward, each extreme edge doubled upon itself and extended outwardly, the lower end doubled upon itself and extended outwardly a short distance, the upper end bent upward and outward, substantially as described.

7. A metal sheet for a roof consisting of a horizontal portion having each longitudinal edge curved upward and outward, each extreme edge doubled upon itself and extended outwardly and upwardly, the lower end doubled upon itself and extended outwardly a short distance, the upper end bent upward and outward, and then upward slightly and the lower finished end turned slightly downward, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

WILLIAM W. TURNER.

Witnesses:

W. H. CHAMBERLIN,
FLORENCE KING.