C. A. SMITH.
Car-Roofing.

No. 225,172. Patented Mar. 2, 1880.

Fig. 1.

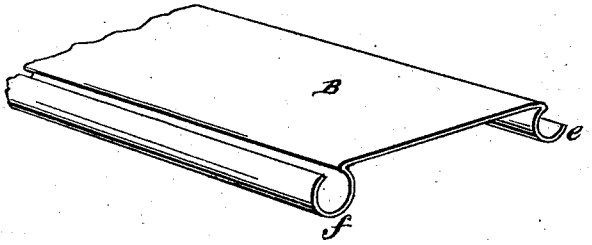


Fig. 2.

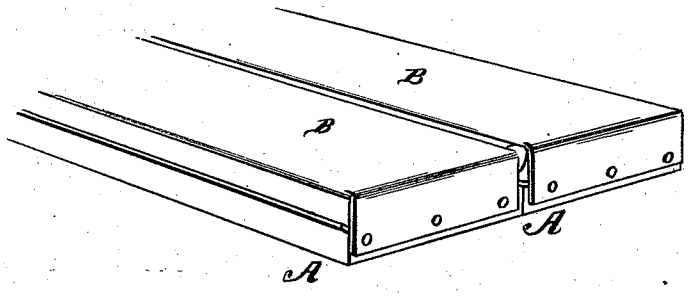
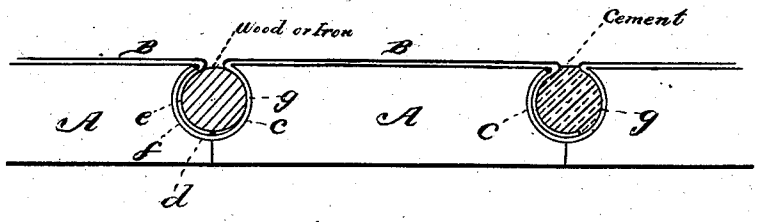


Fig. 3.



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CHARLES A. SMITH, OF ALLIANCE, ASSIGNOR TO HIMSELF AND THOMAS C. SNYDER, OF WAYNESBURG, OHIO.

CAR-ROOFING.

SPECIFICATION forming part of Letters Patent No. 225,172, dated March 2, 1880.

Application filed August 23, 1879.

To all whom it may concern:

Be it known that I, CHARLES A. SMITH, of Alliance, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Car-Roofs; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective of the metal sheet. Fig. 2 is a perspective of the roof, and Fig. 3 is a vertical sectional view of the same.

The nature of my invention consists in an improved car-roof, as will be fully described in the following specification, and particularly pointed out in the claims.

Referring by letter to the drawings, A A designate the boards or sheathing, which are secured to the top of a car-frame; and B B, sheet-metal sections, which interlock together, so as to constitute a covering for the boards. The boards are grooved along their sides, as at *c*, so that when they are brought together, as herein illustrated, the two grooves form a cylindrical passage, *d*, extending the entire length of the boards.

The sheet-metal sections B have each a bead, *e*, along one side, and a bead, *f*, along the other side thereof, the bead *e* being bent so as to form, in cross-section, a semicircle, and the bead *f* formed so as to constitute, in cross-section, almost a complete circle.

To form the roof I proceed as follows: Commencing at one side of the car-top I nail down to the rafters one of the boards A, and then, by placing the bead *e* in one of the grooves *c* and pressing the metal section upon the board, the bead *f* will be sprung into the remaining groove of the board, and the section be anchored without nails or screws. After this another board is placed upon the rafters, driven up closely to the board just described, and then securely nailed in position.

In order to fit the next metal section in place, I fit its half-bead *e* within the full bead *f* of the section already laid down, and this may be easily accomplished by inserting the edge of bead *e* into the opening along the full bead *f* while holding the section in a vertical plane, and then bringing the said metal section down upon the board. In this last-named position the full bead *f* of the section will be readily sprung into the groove *c* which is opposite to the side on which the beads have just been interlocked. After this another board and section are laid down in like manner until the roof is completed. These metal sections may be of any width desired, and, if required, may extend from the eaves to the comb of the roof.

Where several sections are employed a broad strip may be formed along the sides, which meet at the top of the roof, and the two fastened together by bending and suitably securing together the strips.

In order to fill the grooves between the boards I insert a filling, *g*, consisting of cement or wooden or iron bars.

The sections are suitably painted, and the roof, when finished, is strong, durable, water-tight, and highly desirable.

What I claim is—

1. A metal roof composed of flat sheet-metal plates provided with beads *e f*, inverted, so as to present their concave surfaces upward, cylindrical spaces being formed for the reception of a packing by the interlocking of the adjacent beads, substantially as and for the purpose set forth.

2. The metallic section B, formed with beads *e f*, in combination with the board A, having grooves *c*, substantially as herein set forth.

3. The combination of the boards A A with the metal sections B B, secured upon the same and interlocked together by means of the beads *e f*, substantially as shown and set forth.

4. A roof composed of the grooved boards A A, metal sections B B, with interlocked beads *e f*, and the grooves or passages *d*, provided with a filling, *g*, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES A. SMITH.

Witnesses:

FRANK J. RUTH,

H. R. PIPPITT.