

(No Model.)

J. C. WANDS.

FREIGHT CAR ROOFING.

No. 280,976.

Patented July 10, 1883.

Fig. 1. A

Fig. 2.

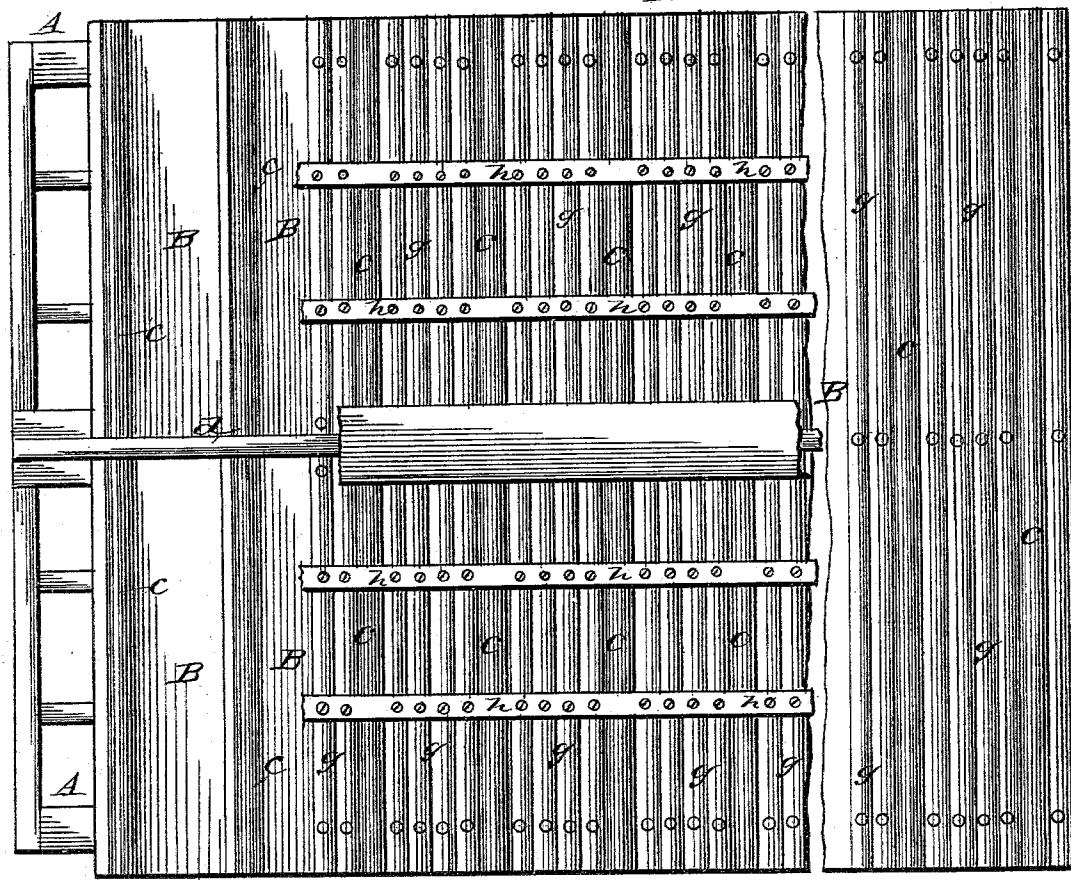


Fig. 3.

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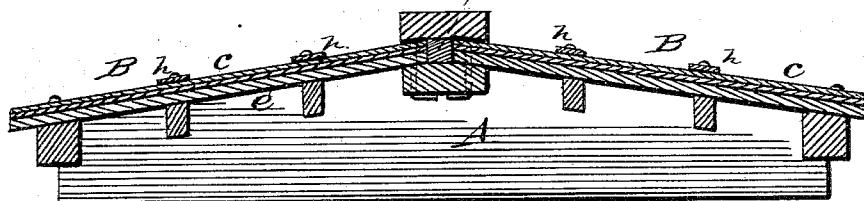


Fig. 4.

Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF ST. LOUIS, MISSOURI.

## FREIGHT-CAR ROOFING.

SPECIFICATION forming part of Letters Patent No. 280,976, dated July 10, 1883.

Application filed May 12, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN CLARK WANDS, a citizen of the United States, residing at St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Freight-Car Roofing; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a top view, and Fig. 2 is also a top view. Fig. 3 is a transverse section, and Fig. 4 is a detail cross-section.

This invention has relation to improvements in car-roofs; and it consists in the construction and novel arrangement of parts, as will be hereinafter more fully set forth, and particularly pointed out in the claims appended.

In the accompanying drawings, the letter A designates the roof-framing. B B are sheets of galvanized iron or tin which are rolled in convex rib form at their edges, as indicated at c. These rolled ribs c are designed to extend from the carling d to the edge of the roof when the sheets are in position, and they 30 lap one over the other, and both over a hard-wood batten, e, which extends under the lap throughout its length. In roofing cars which require curved roofs extending entirely across from edge beam to edge beam the sheets are 35 extended entirely across the car, their rolled edges overlapping throughout their extent. Between the convex laps the sheets are covered with strips or battens g, of hard wood, which are preferably made of the convex form 40 indicated in the drawings. The flat bottoms

of these battens lie closely on the metal sheets, and both battens and sheets are secured to the roof-frame by means of wire nails which are driven through the sheets and battens into and preferably through the longitudinal timbers of 45 the roofing-frame, and when so driven are clinched on the under side of said timbers. In order to provide additional fastenings, it is designed, usually, to extend longitudinal strips h, of hoop-iron or of hard wood, lengthwise 50 over the battens and directly over the purlins of the car. These longitudinal fastening-strips are secured by screws at intervals where the laps of the sheets of metal occur, the screw passing through the crown of the lap and 55 through the under batten into the purlin. These lengthwise fastenings can be used over each purlin and edge plate of the car, or they can be dispensed with if the car does not require a very rigid roof.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, in a car-roof, of the roll-edge sheets of galvanized iron or tin lapping each other transversely of the car over under battens, and the transverse covering battens or strips between the laps on the metallic sheets, substantially as specified.

2. The car-roof consisting of the framing, 70 the under battens, the roll-edge metallic sheets lapped over the under battens, the covering battens, and the longitudinal fastenings, substantially as specified.

In testimony whereof I affix my signature in 75 presence of two witnesses.

JNO. C. WANDS.

Witnesses:

JAMES G. ALEXANDER,  
JNO. H. TRACY.