

J. C. WANDS.
Car-Roofs.

No. 153,868.

Patented Aug. 4, 1874.

Fig 1

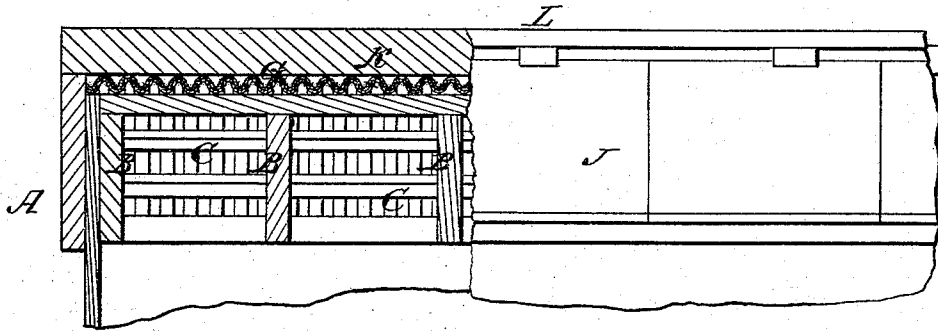


Fig 5



Fig 4

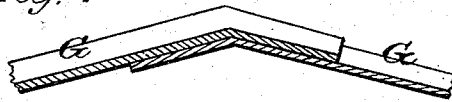


Fig 2

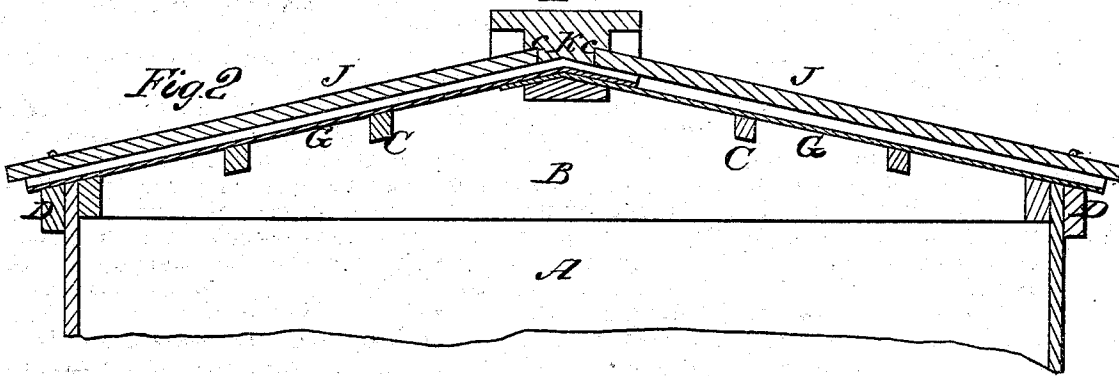
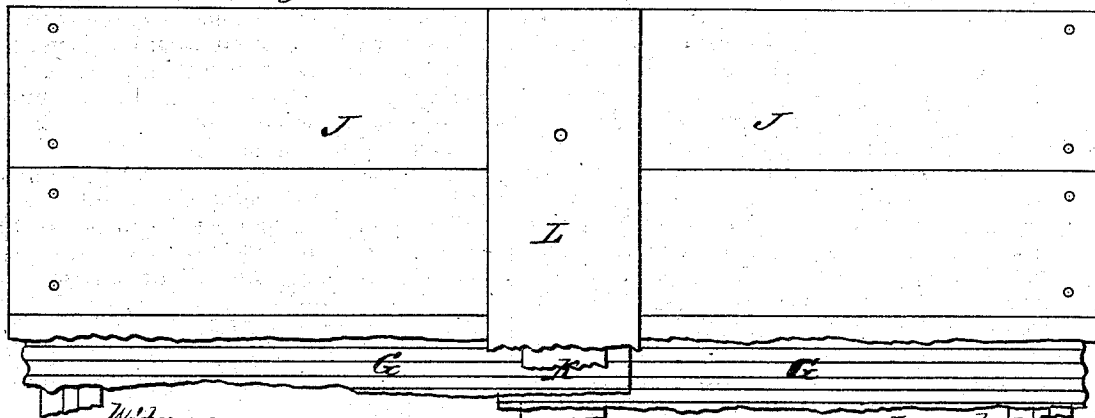


Fig 3



Witnesses
E. H. Bates
George G. Clapham,

Inventor
John C. Wands
Clapham and Osborn & Co
Attorneys

UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF NASHVILLE, TENNESSEE.

IMPROVEMENT IN CAR-ROOFS.

Specification forming part of Letters Patent No. **153,868**, dated August 4, 1874; application filed April 4, 1874.

To all whom it may concern :

Be it known that I, JOHN C. WANDS, of Nashville, in the county of Davidson and State of Tennessee, have invented a new and valuable Improvement 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.

Figures 1 and 2 of the drawings are representations of sectional views of my car-roof, and Fig. 3 is a plan view of the same. Figs. 4 and 5 are detail views of the same.

This invention has relation to roofs, which are principally designed for railroad-cars; and it consists in a roof, which is composed of corrugated sheet metal, which is lapped at the ridge of the roof and crossed with wood sheathing, whereby rigidity and strength are obtained, at the same time that free ventilation of the car and a free lateral escape of water is permitted, as will be hereinafter explained.

In the annexed drawings, A designates the upper part of the body of the railway-car B B, the car lines extending transversely across the top of the body, and ridged, as shown in Fig. 2. C C are the perlines, which extend from end to end of the car, and are framed into the car-lines in the usual well-known manner. At the extremities of the car-lines B B, and properly secured along the eaves of the roof, are the large boards D D. This constitutes the frame of the car, which may be constructed in the usual well-known manner. On this roof-frame I suitably secure sheets of corrugated metal, which may be zinc, galvanized iron, or other suitable metal. These sheets, which I letter G G, have their corrugations running so that their channels are directed downwardly and outwardly—that is to say, these corrugations are at right angles to the length of the car, as shown in the drawings. The upper edges of the corrugated sheets are lapped, and where they cross the ridge of the center perline C, they are bent so as to correspond with the angle of inclination of the roof. Where the sheets G G lap, the valleys on one side receive the ridges on the

other side. The sheets are thus tied together at their places of lapping. The metal roof thus constructed is covered with boards J, constituting a close sheathing, which boards will protect the corrugated sheets from injury and wear, and destruction from exposure to wet and heat. The upper ends of the sheathing boards abut against a roof-board clamp, K, and are received beneath shoulders c formed thereon, as shown in Fig. 2.

The wood planking or sheathing J is made of thin stuff, and costs very little. It can be readily replaced, and it serves as a shield or guard to the metallic corrugated portion of the roof.

On top of the roof-board clamp is secured the running-board I.

It will be seen from the above description that I am able to practically employ a sectional, corrugated metal roof, and to lock together the sections composing the two sides of this roof, so that they will afford great strength to the car-body. I at the same time afford, by means of the channels formed by the corrugations, free spaces over the large boards for circulation of air into and out of the car-body, and I also leave spaces between the corrugated sheets and the sheathing for the escape of water.

I am well aware that a metal car-roof and a sheathing of wood are not new, therefore I do not claim such invention broadly. I am aware, too, that corrugated metal has been used for roofing purposes, therefore I lay no claim to the invention thereof; but

What I claim as new is—

In combination with the sheathing-boards of a car-roof, the corrugated metallic lining, united by lapping and bending over the ridge-beam, so that the ridges of one lapped sheet shall fit into the groove of the opposite sheet and serve to brace and strengthen the roof, substantially as specified.

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

JOHN C. WANDS.

Witnesses:

D. D. KANE,
GEORGE V. UPHAM.