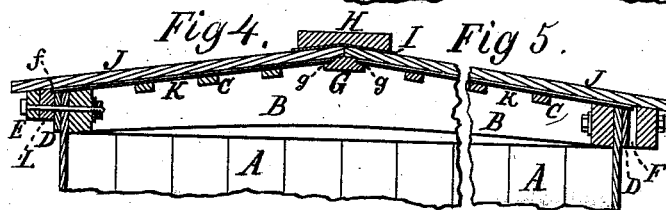
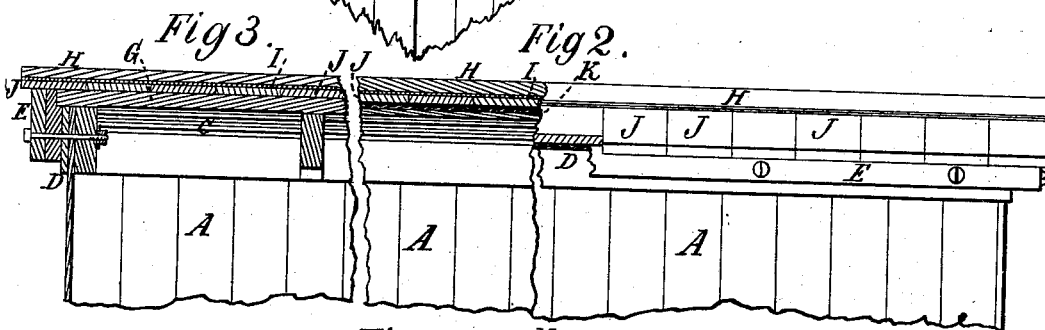
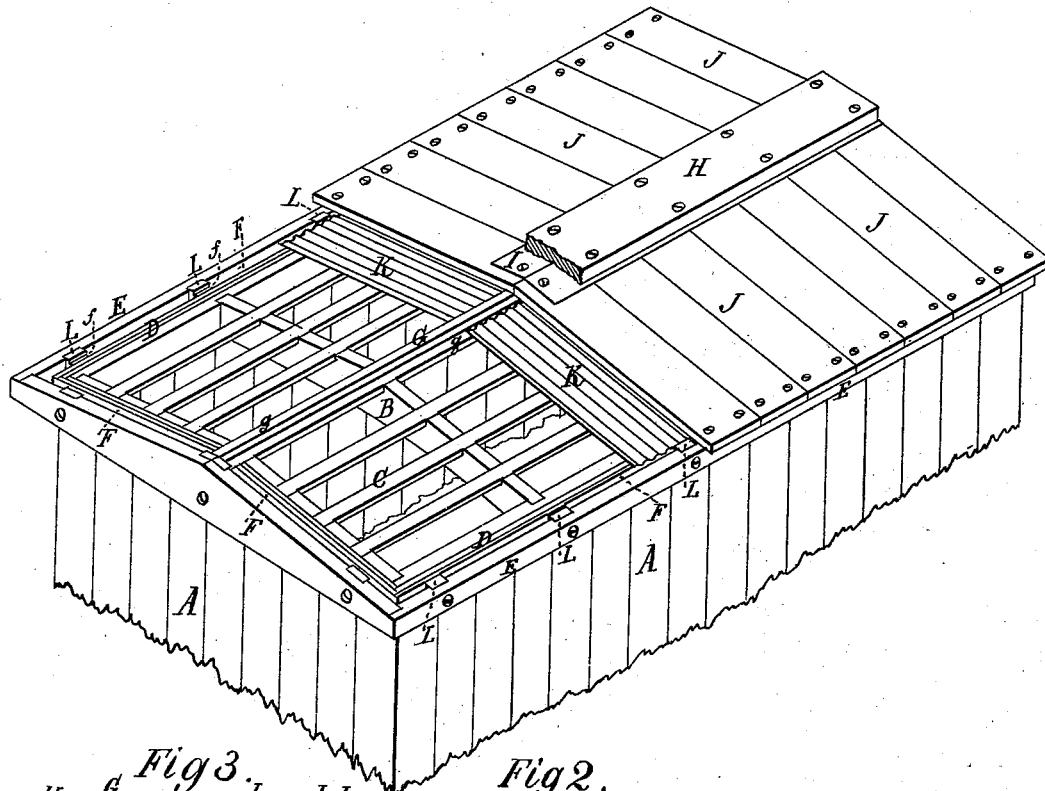


H. ALDRIDGE.  
Railroad-Car Roof.

No. 221,142.

Patented Nov. 4, 1879.

Fig1.



Witnesses:

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# UNITED STATES PATENT OFFICE.

HIRAM ALDRIDGE, OF CHICAGO, ILLINOIS.

## IMPROVEMENT IN RAILROAD-CAR ROOFS.

Specification forming part of Letters Patent No. **221,142**, dated November 4, 1879; application filed January 31, 1879.

*To all whom it may concern:*

Be it known that I, HIRAM ALDRIDGE, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Car-Roofs; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a perspective view of a car-roof constructed in accordance with my invention. Fig. 2 is a partial side elevation and partial longitudinal section of the same. Fig. 3 is also a partial longitudinal section in the line of the center of the ridge-pole of the car-roof. Fig. 4 is a transverse section of a part of the roof in the line of the furring-blocks; and Fig. 5 is a similar section, but out of the line of the furring-blocks.

My present invention is designed to overcome a difficulty experienced with car-roofs which are provided with metal sheets or plates for prevention of leakage, and with drip-passages at the eave ends and edges of such plates as are at the ends of the car, for conducting the drip-water beyond the range of the sides and ends of the car.

The difficulty experienced is this: The sheets, not being punctured with nails or screw-holes for the insertion of fastenings for holding them in position, are necessarily retained in position by means of clamps, which press upon them and tend to prevent their slipping by one another in the use of the car on railroads. This clamping action, however, in time becomes partially relaxed and the sheets slide and close the drip-passages, and thus the water is prevented from escaping on a plane which is out of the range of the sides and ends of the car, and the drip-water saturates the boards, and in time the roofing and other wood-work of the car rots, and serious loss is incurred. Besides this, leakage at the upper ridge of the car may be experienced on account of the slipping of the sheets, and thus damage to the contents of the car ensue.

The nature of my invention consists, first, in the combination, in a car-roof, with metal sheets confined in position by the outer covering or sheathing, and left free to yield to extraordinary strains or to expansion and contraction, of furring-stops arranged in the drip-

passages and outside the range of the sides or ends of the car-body to prevent said sheets sliding on the roof and closing said passages; second, in the ridge-pole rabbeted flush with the base of the notched portion of the furring-blocks and with the top surface of the purlins and carlings, in combination with metal sheets, which are clamped in position and left free to slide under extraordinary strains, or when contracted or expanded, and with furring-blocks, deck-boards, running-board, and the outside plate of the car; third, in the running-board lined with metal or other water-shedding material on its under side, in combination with the deck-boards, ridge-pole, furring-blocks, metal sheets which are clamped in position and left free to slide under extraordinary strains, or when expanded and contracted, and with the frame-work having an outside plate, as hereinafter described.

In the accompanying drawings, A is the sheathing of the body of the car; B, the purlins, and C the carlings, of the roof. D indicates the frieze-boards; E, the outside plates; F, the drip-passages between the plates and the frieze-boards; G, the ridge-pole; H, the running-board, with metal lining I under its bottom; J, the deck-boards; K, the corrugated or other description of metal sheets, and L the furring-blocks.

The ridge-pole G is rabbeted on each edge at top, as shown at *g*, the rabbets being of a depth which brings their bases on a line with the top surfaces of the purlins and carlings of the roof. The furring-blocks are properly spaced in the drip-passages F, and their highest part comes up flush with the top of the outside plates, E, and their notched portion, which forms a stop, *f*, is on a plane with the top surface of the purlins and carlings, and with the base of the rabbets *g*. The notches which are cut in the furring-blocks in order to form the stops *f* are of a size about equal to half the width of the drip-passages F, and therefore it will be seen that the stops occupy a position about midway of the said passages.

It will be seen from the drawings that the corrugated metal sheets are first placed upon the purlins and carlings of the roof with their ridge ends resting in the rabbets *g* of the ridge-plate, and their eave ends resting against the stops *f* of the furring-blocks L. The metal

plates thus applied will have their eave ends extending about half-way over the drip-passage, as shown. The deck-boards are next applied so that their ridge ends abut and their eave ends overhang the outside plates, E, and they are screwed down to the ridge-pole and the plate, as represented. The metal lining is next placed over the joints between the ridge ends of the deck-boards, and the running-board screwed down upon the same and to the ridge-pole, as shown.

At the forward and rear ends of the car furring-blocks and drip-spaces are in like manner provided for the edges of the end-finishing sheets of the car-roof. The parts thus united will all retain their position, and the sheets will be prevented from slipping either endwise or sidewise entirely over the drip-passages by the stops of the furring-blocks, and thus a car-roof which does not have its sheets or plates which are used for prevention of leakage punctured to receive fastenings is produced, in which the escape of the drip-water is insured.

What I claim is—

1. In a car-roof, the combination, with metal sheets confined in position by the outer sheath-

ing and left free to yield when expanded or contracted or subjected to extraordinary strains, of stops arranged in the drip-passages and outside the range of the sides or ends of the car-body to prevent said sheets from closing said passages, substantially as described.

2. The ridge-pole rabbeted flush with the base of the notched portion of the furring-blocks, and with the top surface of the purlins and carlings, in combination with metal sheets, which are clamped in position and left free to slide under extraordinary strains or from other causes, furring-blocks, deck-boards, running-board, and outside plate, substantially as and for the purpose described.

3. The running-board lined with metal on its bottom, in combination with the deck-boards, ridge-pole, metal sheets, which are clamped in position and left free to slide under extraordinary strains or from other causes, furring-blocks, and frame-work with outside plate, substantially as and for the purpose described.

HIRAM ALDRIDGE.

In presence of—

THOS. COBB,

GEO. R. THOMSON.