

H. ALDRIDGE.  
Car-Roofs.

No. 208,007.

Patented Sept. 17, 1878.

Fig 1.

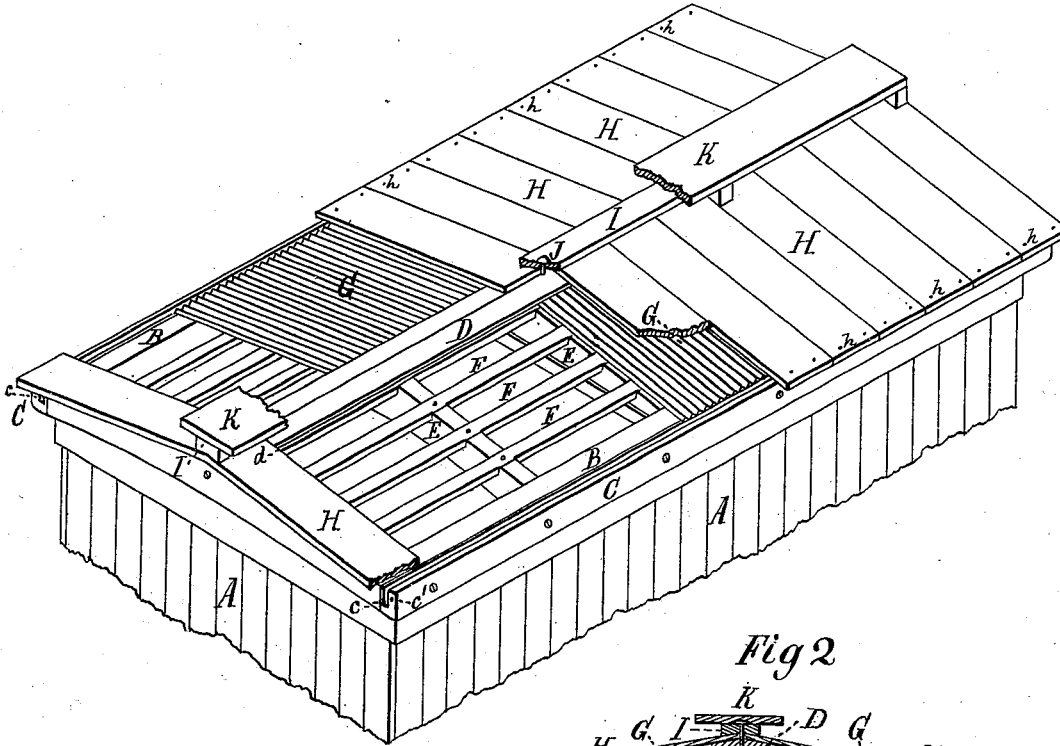


Fig 2

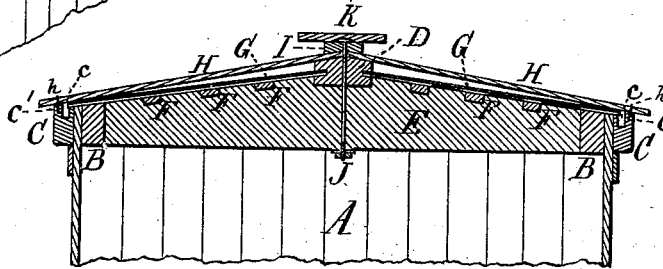
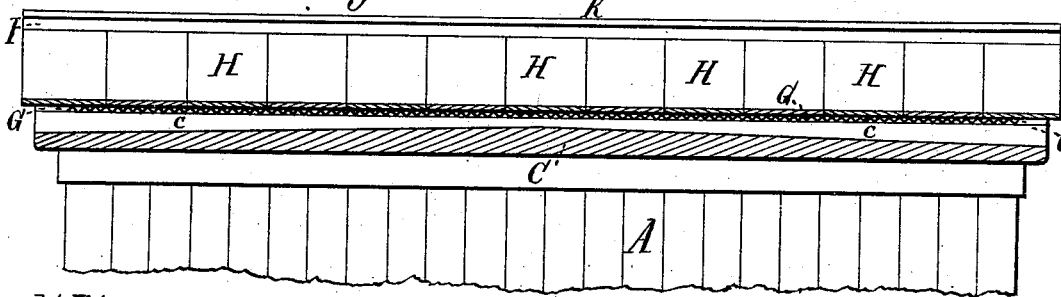


Fig 3.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN CAR-ROOFS.

Specification forming part of Letters Patent No. 208,007, dated September 17, 1878; application filed June 20, 1878.

### *To all whom it may concern:*

Be it known that I, HIRAM ALDRIDGE, of the city and county of St. Louis, in the State of Missouri, have invented a new and useful Improvement in Car-Roofs, which improvement is fully set forth in the following specification and annexed drawings, in which latter—

Figure 1 is a perspective view of a car-roof having certain parts removed and broken away, so as to fully expose to view such parts as would otherwise be hidden thereby. Fig. 2 is a vertical central transverse section of the same. Fig. 3 is a vertical longitudinal section of one of the guttered eaves of the same.

The nature of my invention consists, first, in the combination, in a car-roof, of a ridge-beam having side grooves, a ridge-clamp, eaves-beam having a gutter with its outer side portion higher than its inner one, an inner metal roof, and an outer covering-roof, as and for the purpose hereinafter set forth.

It consists, second, in a novel device whereby any leakage water upon the inner metal roof is collected into an inclined longitudinal gutter formed in the outer eaves-beam, and conducted to and discharged at the ends of the car upon the ground, thereby preventing such water in its descent from wetting the sides of the car, thus rendering the same damp and enhancing its liability to decay, as is the case when such water is discharged at the sides of the car, as shown in the patent granted me.

It consists, third, in an eaves-beam of a car-roof, with a covered water-gutter at the eaves end of an inner metal roof, and inclined in opposite directions and extended to or through the ends of the car, as and for the purpose hereinafter set forth.

In the accompanying drawings, A represents the vertical body portion of an ordinary car; B the inner and C the outer eaves-beam; D, the ridge-beam; E, the rafters; and F, longitudinal bars connecting the rafters with each other and with the end cross-beams of the car.

The ridge-beam D is provided at each side with a groove, *d*, which is flush with the upper surface of the rafters E. The corrugated metal

sheets G, constituting the inner metal roof, are placed upon the rafters E and bars F, and their upper ends are inserted into the groove *d*, wherein they are accurately fitted. The lower ends of the sheets G rest upon the inner eaves-beam, B and extend to a longitudinal secret or covered gutter, *c*, in the outer eaves-beam, C. The said gutter *c* inclines from the center to both ends of the car, and serves to collect the leakage water from the metal sheets G and conduct it to the ends of the car and discharge it upon the ground. I generally make the lower edges of the sheets G to partly overhang the groove *c*, in order to prevent water from coming in contact with the wood-work of the car before it reaches the gutter *c*.

The inner metal roof is covered with a wooden roof of boards, H, which are placed inclining upon the ridge-beam D, so that their upper ends abut and their lower ends rest upon the outer edge, *c'*, of the guttered eaves-beam C. Upon the upper ends of the boards H, along their line of abutment, a ridge-clamp board, I, is placed and fastened to the ridge-board D and rafters E by means of bolts J, thus forming a powerful clamp, which securely holds the ridge ends of the boards in place. Instead of depending wholly upon this clamp, screws or nails can be passed through the boards without piercing the sheets at the ridge. The lower ends of the said boards are made to overhang the outer eaves-beam, C.

The outer portion, *c'*, of the guttered eaves is made higher than the inner portion, so that the sheets G may rest down upon it and their upper surface be touched and bound by the boards H, and thus when these boards are fastened to the eaves C by nails or other means the sheets shall be firmly clamped without being penetrated by the nails or fastenings.

The increased pitch or inclination given to the boards H with respect to the sheets G serves to cause a frictional bind between the two, and thus prevent the sheets from slipping down and covering up the gutter *c* during dry weather or extremely rough traveling, the clamps or other fastenings under such circumstances being liable to temporarily become loose and permit the sheets to move. The

ridge-clamp board I is provided with an ordinary running-board, K, which is suitably attached to it and the roof.

By constructing my car-roof in the above-described manner I am enabled to use metal sheets for the inner roof, which are confined at their ridge and eaves ends without being pierced by nails or other fastenings, and consequently do not afford any chance for water to leak through and damage the car. Such construction also enables me to finish the inner roof much quicker and cheaper, as the cost and labor of putting extra fastenings through the sheets is saved; and, finally, all leakage is collected from the sheets G and conducted to the ends of the car, from whence it may fall to the ground or be conducted down in common water-pipes, thus obviating the injurious effect of having such leakage run down the sides of the car to its injury and oftentimes to the injury of its contents.

I claim—

1. In a double car-roof, the combination of the inner metal roof, as described, and the eaves-beam C, having a gutter, *c*, leading to the ends of the car, substantially as and for the purpose set forth.

2. In a car-roof, the combination of the ridge-beam D, having grooves *d*, the ridge-clamp I J, the boards H, the eaves-beam C, having the gutter, *c*, with the elevated outer portion, *c'*, and the sheets G, substantially as and for the purpose set forth.

3. The eaves-beam of a car, with a covered water-gutter at the eaves end of an inner roof, G, and inclined in opposite directions, and extending through or past the ends of the car, substantially as described.

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Witnesses:

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