(No Model.)

L. C. MARSHALL.

CAR ROOF.

No. 563,718. Patented July 7, 1896.

Fig. 1.

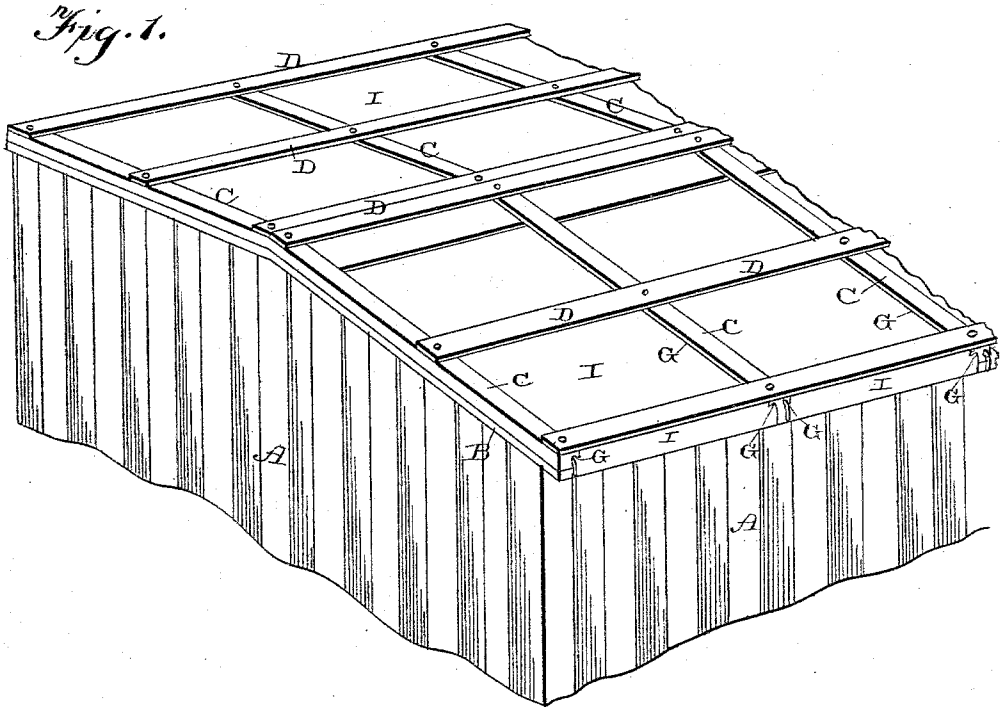


Fig. 2.

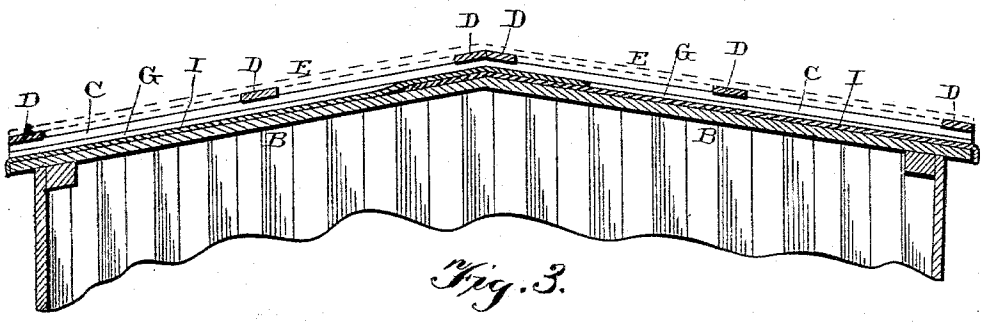
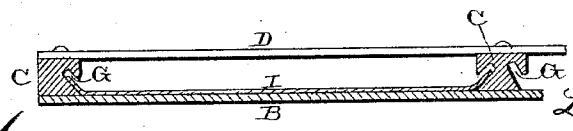


Fig. 3.



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CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 563,718, dated July 7, 1896.

Application filed September 5, 1895. Serial No. 561,559. (No model.)

To all whom it may concern:

Be it known that I, LEWIS C. MARSHALL, a subject of the Queen of Great Britain, residing at East Walpole, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Car-Roofs, of which the following is a specification.

This invention relates to car-roofs, the object being to produce, more particularly for freight-cars, a roof of improved construction, as hereinafter described, embodying such structural features as securely retain the covering material thereon, and obviate the tendency of said material to become detached by the sagging and torsional motions of the car when in use, and to provide such improved construction as facilitates the replacement of worn-out roof-covering at a small expense.

In the accompanying drawings, Figure 1 is perspective of the top portion of one end of a car to which my invention is applied, the outer roof being entirely omitted. Fig. 2 is a vertical cross-section of the same, the outer roof being indicated by dotted lines. Fig. 3 is an enlarged detail view.

A represents an ordinary freight-car, B the inner and main roof which is applied thereto, and C the rods or bars which extend from the outer edge of the roof to the apex thereof, and which meet at the apex, as shown in Fig. 2. Extending longitudinally along the roof and secured to these rods or bars C are the purlins D, upon which the outer roof E is secured, as shown in Fig. 2. The rods or bars C are provided with suitable grooves G in their sides, and which grooves extend diagonally upward, so as to receive the edges of the roofing-paper I, as shown in Fig. 3, and form a water-tight joint. These grooves G are made slightly wider than is absolutely necessary, so as to allow the edges of the paper I to slide freely into place, and are made deep enough to prevent the swaying and weaving of the car from injuring or breaking the paper along its edges, as would be done if the paper were tightly held by being secured in any manner to the rods or bars C. These grooves register at the apex of the roof, where the ends of the rods or bars meet, so that the sheet of roofing material I that is slid into place from one side of the car will meet and overlap the piece that is slid in from the opposite side.

The main object of my invention is to provide a means by which a leaky roof of a car can be quickly and readily repaired without the necessity of removing so much as a portion of the roof itself, and for this reason the grooves in the bars or rods C are made sufficiently large and deep to allow one section of roofing-paper to be drawn from position, and another instantly inserted into place without the necessity for fastenings of any kind, except at the outer edges of the roof, where the end of the paper is fastened in any suitable manner.

The roofing-paper I may be of any suitable description, but I prefer to use a suitable quality of roofing-paper, which is backed or reinforced by burlap, the two being secured together by any suitable waterproofing cement. I do not, however, limit myself to any particular material, as this is largely a matter of choice, but in any case the material used must be sufficiently rigid to be slid in the grooves and sufficiently flexible to follow the change in their course over the apex of the roof of the car as the material is slid into place.

In sliding the two sections of the paper or roofing material into place, should their inner edges meet at the apex of the roof, one section is slightly withdrawn, so that its edge is to one side of the apex, and then the other section is pushed into place, and the section from the opposite side will have its edge slide under or over that of the section which is already in position. As the inner edges of the roofing material overlap at the apex of the roof, and as their side edges are turned upward in the grooves G, it will readily be seen that should the outer roof E leak the water will drop upon the roofing-paper and be carried off without the slightest possibility of its reaching the inner roof B.

It is immaterial how the outer edges of the sections of paper are held where they lap down over the outer edge of the roof. They may either be tacked directly to the edge of the roof, or they may be secured by means of strips, which are only as long as each section

of the roof is wide, so that when the roof is to be repaired at any one section, it will only be necessary to loosen the paper or roofing material at its outer end, and thus no other part of the roof will have to be removed so as to make repairs.

The one essential feature of my invention is that each section of paper or roofing material I shall slide freely back and forth in the grooves G in being placed in position or removed therefrom and be unattached to the roof at any point, except at its outer edge. The grooves being deeper and wider than is absolutely necessary to merely receive the edges of the paper or roofing material, no movement or weaving of the car affects the paper in any manner, and hence any injury to this paper can only come through a perforation of the inner or outer roof. When such a perforation does occur, one section of paper or roofing material has but to be loosened at its outer edge and then removed and another piece slid into position.

By means of my construction car-roofs can be repaired more readily, quickly, and cheaply than by any other manner now known, and the paper or roofing material being attached to the roof at one point only is not injured by the weaving and swaying of the car, and hence lasts indefinitely.

Having thus described my invention, I claim—

In a car-roof, the main or underlying roof, and the rods or bars C, having the grooves G, extending diagonally upward toward each other in their opposite edges to loosely receive the edges of the covering material, the grooves in the rods or bars on the opposite sides of the roof meeting at the ridge, combined with sheets of roofing material, sufficiently stiff or rigid to be slid in said grooves and yet sufficiently flexible to be deflected where they meet the change in the course of the grooves, applied thereto, and having their lower extremities only attached to the car at or near the eaves thereof, and extending in separated relations to each other beyond the ridge of the roof, substantially as shown.

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