

(No Model.)

P. H. MURPHY.
CAR ROOF.

No. 489,322.

Patented Jan. 3, 1893.

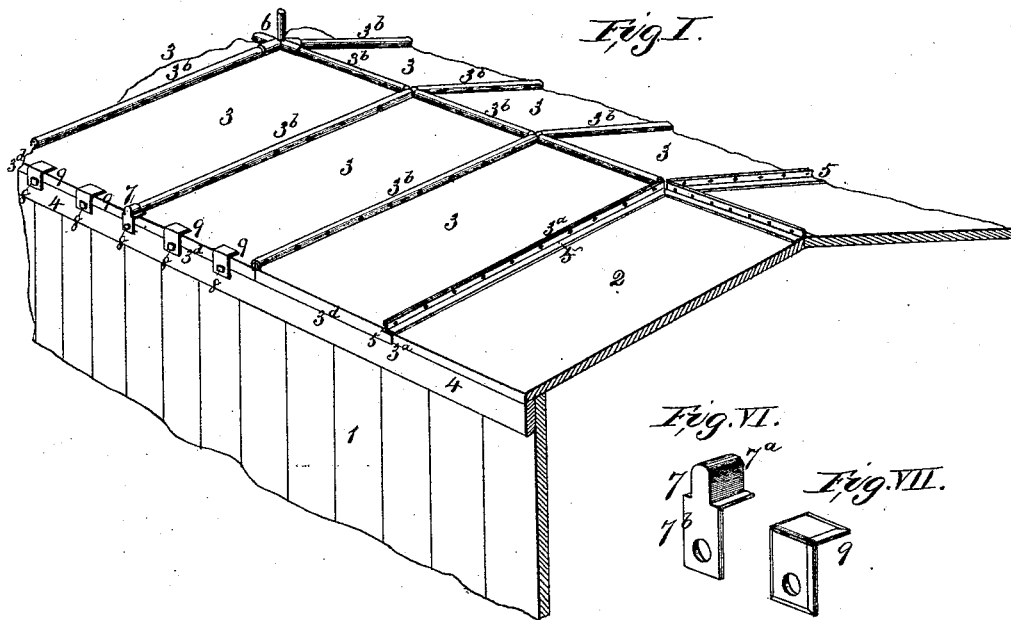


Fig. VI.

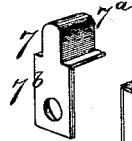


Fig. VII.

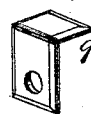


Fig. VIII.

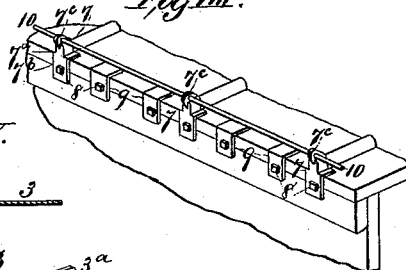


Fig. IV.



Fig. V.

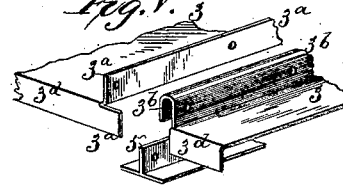


Fig. II.

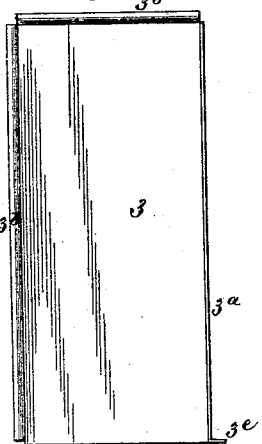


Fig. III.



Attest:

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PETER H. MURPHY, OF EAST ST. LOUIS, ILLINOIS.

CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 489,322, dated January 3, 1893.

Application filed April 20, 1892. Serial No. 429,938. (No model.)

To all whom it may concern:

Be it known that I, PETER H. MURPHY, of East St. Louis, in the county of St. Clair and State of Illinois, have invented a certain new and useful Improvement in Car-Roofs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This is an improvement on the car roof for which Letters Patent were granted to me bearing date the 29th day of October, 1889, and numbered 414,069. The present improvement relates to the manner of holding down the metal sheets at the eaves of the roof and connected with which means are safety rods which surmount and run longitudinally of the lower portion of said roof and said elements consist in the devices described and claimed for this purpose.

Figure I is a perspective view of part of a car roof showing my invention. Fig. II is a top view of one of the roofing sheets. Fig. III is an end view of one of the sheets. Fig. IV is an enlarged cross section of the raised joint between the sheets. Fig. V is a detail perspective view showing parts detached. Fig. VI is a perspective view of one of the metal clips or clamps that hold the sheets at the joint at the eaves. Fig. VII is a perspective view of the clips holding the edge of the sheet between the joints. Fig. VIII is a detail perspective view showing a safety rod passing through lugs of the clips or caps. Fig. IX is a perspective view of one of the clips or caps adapted for attachment of the safety rod.

I will first briefly describe the roof as patented to me as aforesaid, and then the novel features of the improvement.

1 is the car wall or side, 2 the wooden part of the roof.

3 are sheets of metal forming the covering of the part 2.

The eaves of the car are shown at 4. The sheets have at one side an upturned flange 3^a and at the other side a standing return bend or inverted U bend 3^b adapted to embrace the flange 3^a and also the standing rib 5 of the angle strip that is close beside the flange 3^a. The angle strip is nailed to the wooden roof, and the parts 3^a, 3^b and 5 are secured together by horizontal rivets. The sheets are

connected together at the ridge in the same manner as at the sides and at the meeting corner of the four sheets there is a cap 6 serving to break the joints. Each sheet 3 has a downturned flange 3^d embracing the eaves of the part 2 with an extension 3^e overlapping the flange 3^d of the next sheet.

I will now describe the novel parts of my invention. It is objectionable to nail through the roofing sheets and is necessary that they should be held tight down at the eaves, and to accomplish this requirement without the described faulty construction is one of the purposes of my invention.

7 is a metal cap or clip having a part 7^a formed to embrace the end of the rib formed of the parts 3^a, 3^b and 5 the fit between the cap and the rib being preferably tight. At the side of the U formed part are shown narrow flanges extending over the sheets 3. These flanges are however not essential. The front of the cap has a vertical part 7^b parallel with the eaves and extending from the top of the part 7^a below the bottom of the downturned flange 3^d and secured to the side of the car by a bolt 8 passing through it and the side of the car below the flange 3^d. It will be seen that the cap will close the end of the rib 3^a, 3^b, 5, and will also hold it tightly down.

9 is an angle clip or clamp that is secured to the side of the car in the same manner as the cap 7 and whose upper part or flange overlaps the corner of the sheet 3. Two of these clips are shown for each of the sheets, there may, however, be any number—one or more.

In Figs. VIII and IX the clip 7 is shown with a lug 7^c having a hole 7^d through which passes a safety rod 10 whose purpose is to prevent a brakeman slipping from the roof. Brakemen of railroad trains, whose necessary avocations frequently necessitate their running back and forth along the roofs of the cars from one end of the train to the other, frequently slip and fall from said roof and when the train is running said accidents are generally fatal, and many lives are thus annually lost. My safety rods which surmount the roofs of the cars longitudinally thereof, adjacent to the eaves invariably arrest the brakeman after slipping, in his downward descent before sliding off the roof. This life

preserver device is one of the most important elements of my invention.

It will be seen that in no part of the roof is a nail driven through the sheet into the wood-
5 work of the car, so that there is no nail exposed nor any perforation in the sheets through which rain could find access to the wood. Where nails are driven through the sheets they are invariably loosened and drawn
10 outward by the frequent expansion and contraction of the sheets resulting from changes of temperature, and this forms the chief objection to metal roofs. This objectionable feature is not present in my improved roof in
15 which the only perforations in the sheets are in the raised ribs and these are made tight by the horizontal rivets by which they are occupied. The bending of the metal at the ribs in the expansion and contraction of the sheets
20 is not prevented by the rivets nor does such bending loosen the rivets. Rubber washers may be used on the bolts 8 to exclude all moisture from the bolt holes.

I claim as my invention:—

25 1. The combination, in a car roof, of the

metal sheets connected by raised ribs running upward from the eaves and clips engaging the ends of the ribs and having a depending part secured to the side of the car, substantially as, and for the purpose set forth. 30

2. The combination, in a car roof, of the metal sheets connected by raised ribs secured by horizontal rivets passing through the ribs the clip engaging the ribs at the eaves and secured to the side of the car and angle clips
35 engaging the sheets between the ribs and secured to the side of the car, substantially as, and for the purpose set forth.

3. The combination with a car roof, of the clips 7 at the eaves of the roof said clips having surmounting perforate integral lugs 7^c,
40 and the safety arrester rod 10 passing through the said perforate lugs and longitudinally surmounting the roof near the eaves as a safety arrester, substantially as set forth.

PETER H. MURPHY.

Witnesses:

SAML. KNIGHT,
J. M. MAROT.