

No. 685,859.

Patented Nov. 5, 1901.

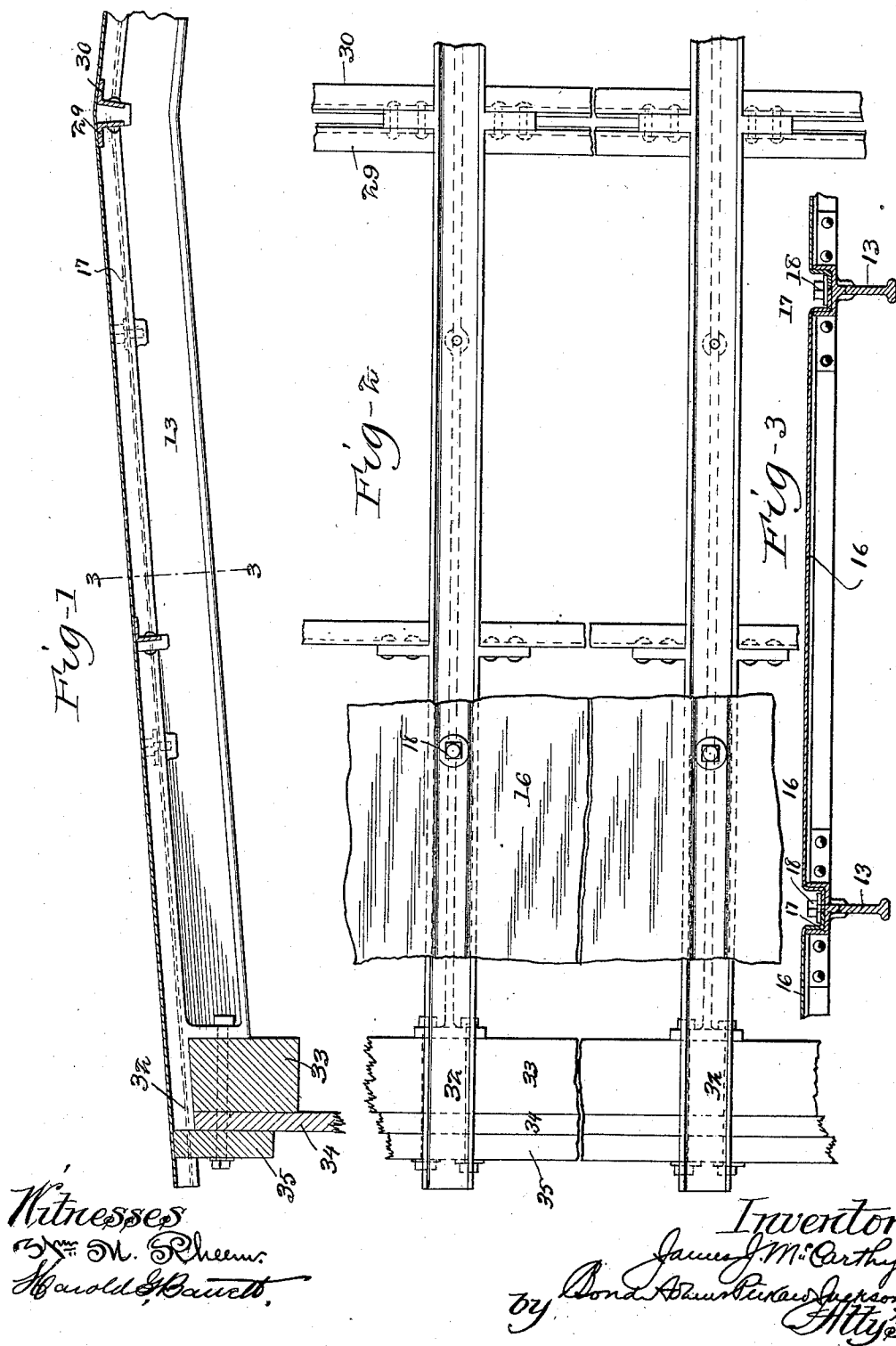
J. J. McCARTHY.

CAR ROOF.

(Application filed July 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.

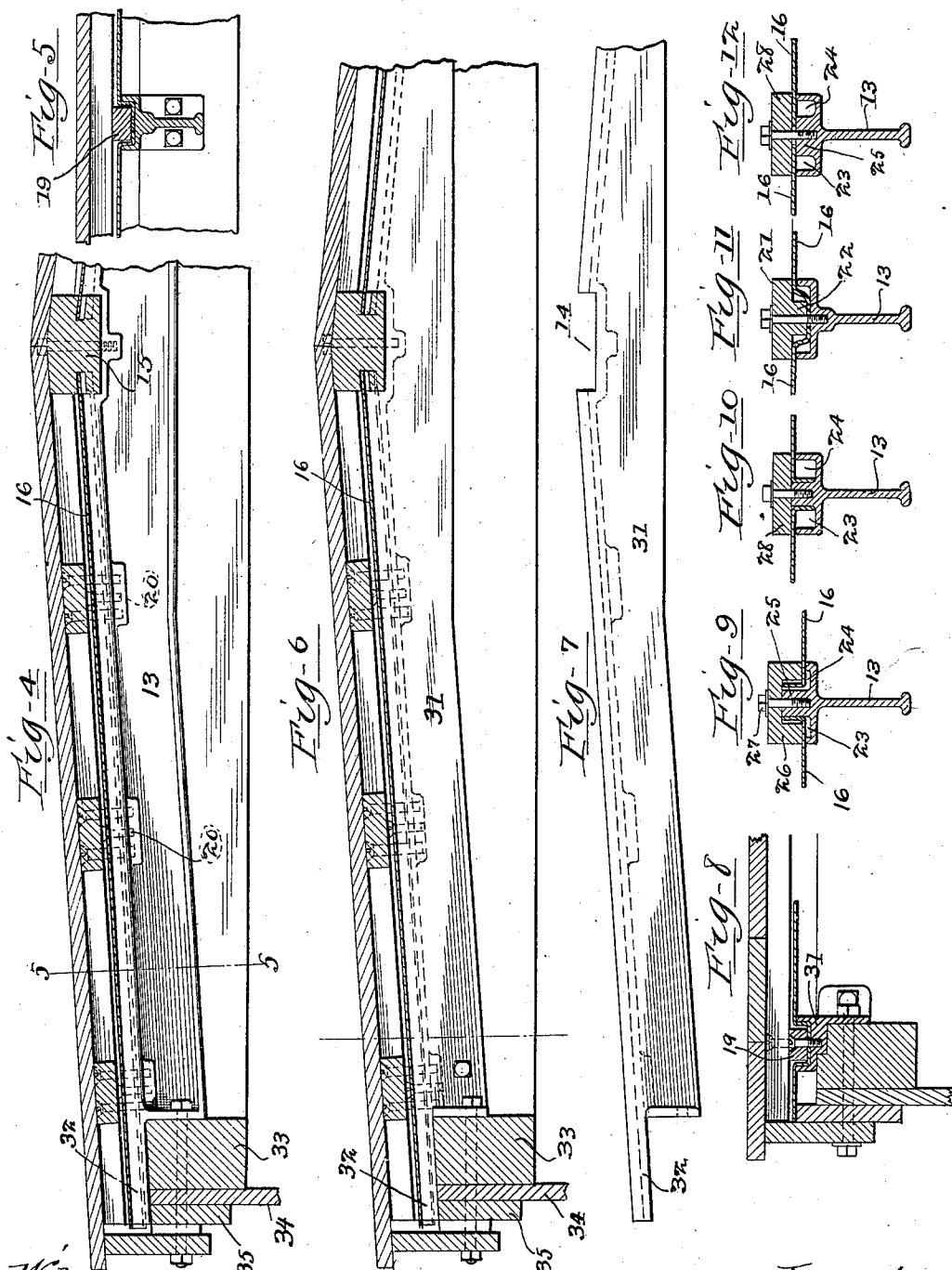


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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

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CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 685,859, dated November 5, 1901.

Application filed July 18, 1898. Serial No. 686,203. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. MCCARTHY, a citizen of the United States, residing at Austin, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to metal roofs for cars, and has for its object to provide certain improvements by which the frame of the roof will be strengthened and simplified in construction and the efficiency of the roof increased to such an extent as absolutely to prevent percolation of water through the roof into the car.

To this end my invention consists, first, in providing an improved carline having one or more water receiving and conducting channels, which receive the water which passes off the side edges of the roofing-plates and conduct it to the eaves of the car.

Another improvement consists in providing means whereby roofing-sheets may be employed which extend from the eaves at one side of the car across to the opposite side, so that it is made unnecessary to groove the ridge-pole for the reception of the inner edges of the roofing-plates, as has heretofore been the general practice, and the danger of leakage at or near the ridge-pole is overcome.

In the drawings, Figure 1 is a vertical cross-section of a part of the roof of a car, illustrating my improvements. Fig. 2 is a plan view substantially of the parts shown in Fig. 1. Fig. 3 is a longitudinal section of the car-roof on line 3 3 of Fig. 1. Fig. 4 is a cross-section of the roof of a car, showing the application of a part of my improvements to a car-roof. Fig. 5 is a cross-section on line 5 5 of Fig. 4. Fig. 6 is a cross-section of a part of a car-roof, showing the end carline. Fig. 7 is a side elevation of one of the end carlines. Fig. 8 is a partial longitudinal vertical section of one end of a car-roof, showing the end carline; and Figs. 9, 10, 11, and 12 are views showing modifications of the carline.

Referring to the drawings, 13 indicates my improved form of carline, which is best illustrated in Figs. 3 and 4 and 9 to 12. It con-

sists, generally stated, of a metallic beam substantially T-shaped in cross-section, which extends across the car and has its upper face inclined to give the proper slant to the car-roof, as shown in Figs. 4 and 7. It is also usually provided centrally with a groove 14 to receive the ridge-pole 15. As shown in Figs. 9 and 12, it is provided with one or more water receiving and conducting channels in its upper face, said channels also being arranged to receive the side edges of the roofing-plates 16. In Fig. 3 I have shown the carlines as having a single channel 17, the edges of the roofing-plates lying in said channel and being secured in place by bolts 18. In Fig. 5 also the carline is provided with a single channel; but instead of securing the edges of the roofing-plates solely by a bolt, as shown in Fig. 3, a block 19 is provided, which is secured upon the edges of the roofing-plates by a screw 20, (shown in dotted lines in Fig. 4,) which passes into the carline. In Fig. 11 a somewhat similar arrangement is shown. Instead of a block 19, however, a securing-strip 21 is employed having a downwardly-projecting tongue 22, which rests upon the adjacent edges of the roofing-plates, the edges of the strip 21 resting upon the roofing-plates and binding them upon the edges of the carline. In Fig. 9 the carline is provided with two water-conducting channels 23 24, said channels being separated by an intermediate rib 25, and the edges of the roofing-plates project into said channels, said plates being secured by a channeled strip 26, which is placed over the edges of the roofing-plates and rests upon the rib 25, to which it is secured by a bolt 27. Fig. 10 illustrates a similar construction, except that the edges of the roofing-plates are turned down instead of up, as shown in Fig. 9, and a flat strip 28 is used to secure the roofing-plates in place instead of the channeled strip 26. Fig. 12 shows a construction similar to that shown in Fig. 10, the edges of the roofing-plates being arranged to rest upon the rib 25 and being bound thereupon by the strip 28. As best shown in Figs. 1 and 4, the carlines are provided at their ends with projecting lips 32, which extend over the side plates and discharge beyond the sides of the car.

By "side plates" I mean to include not only the side plates proper, 33, but also the siding 34 and fascia 35. By this construction whatever moisture passes over the side edges of the roofing-plates is necessarily caught in the channel or channels of the carlines and is thereby conducted to the eaves of the car, whence it is discharged in the usual way, so that there is no possibility whatever of its entering the car. The roofing-strips may readily be removed by loosening the bolts or screws by which they are secured in place.

Where it is desired to avoid the necessity of grooving the ridge-pole, the carlines are connected centrally by angle-bars 29 30, spaced a short distance apart, as shown in Figs. 1 and 2; the upper webs of the angle-bars serving to support the intermediate portions of the roofing-plates, which in this construction extend entirely across the car from eave to eave, as shown in Fig. 1.

In Figs. 6, 7, and 8 I have illustrated a form of carline 31 which is especially adapted for use at the ends of a car, and which, as particularly illustrated in Fig. 8, corresponds in shape to one-half of the intermediate carlines, as it projects at one side only of the vertical portion of the web of the carline. This construction is illustrated merely to show the arrangement employed at the ends of the car.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-roof, the combination of the frame of a car, carlines having a vertically-disposed portion and a channeled portion above said vertical portion, and roofing-plates having their side edges extended over the edges of said channeled portion of the carlines, substantially as described.

2. In a car-roof, the combination with the frame of a car, of carlines each substantially T-shaped in cross-section and having one or more water-conducting channels in its upper side above the vertical portion, roofing-plates

extended at their side edges over upon the upper portions of the carlines, and retaining devices secured to the carlines and engaging the edges of the roofing-plates, substantially as described.

3. As a new article of manufacture, a carline consisting of a vertically-disposed portion and a channeled portion above and extending transversely of said vertical portion, the channel or channels in said transverse portion extending longitudinally of the carline, substantially as described.

4. In a car-roof, the combination with the frame of a car, of carlines having one or more water-conducting channels and provided with projecting lips extending over the side plates of the car, the channels being continued through the lips so as to discharge at the ends of the carlines, substantially as described.

5. As a new article of manufacture, a carline having one or more water-conducting channels in its upper face, and having projecting lips at its ends, substantially as and for the purpose specified.

6. As a new article of manufacture, a carline having one or more longitudinal channels in its upper face and provided on its under side with a downwardly-projecting web, substantially as described.

7. In a car-roof, the combination with the frame of the car, of carlines extending from side to side of the car and having one or more channels in their upper portions and vertical portions or webs beneath the channeled portions, connecting devices extending longitudinally of the car and connecting the carlines at the ridge, and roofing-sheets resting on and secured to said carlines, substantially as described.

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