D. W. HAWKSWORTH.

CAR ROOF.

APPLICATION FILED JUNE 16, 1911.

1,089,555. Patented Mar. 10, 1914.

Fig. 1.

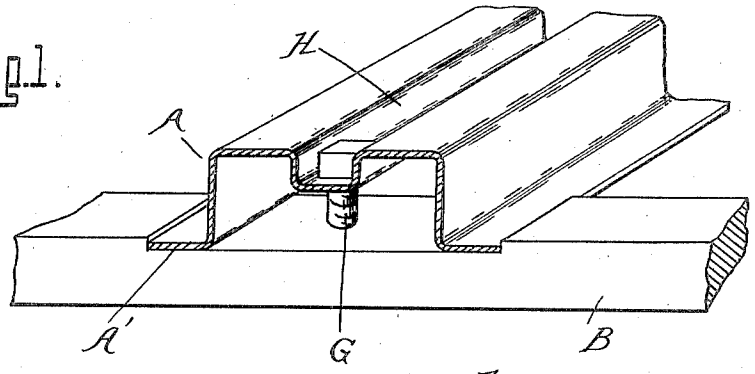


Fig. 2.

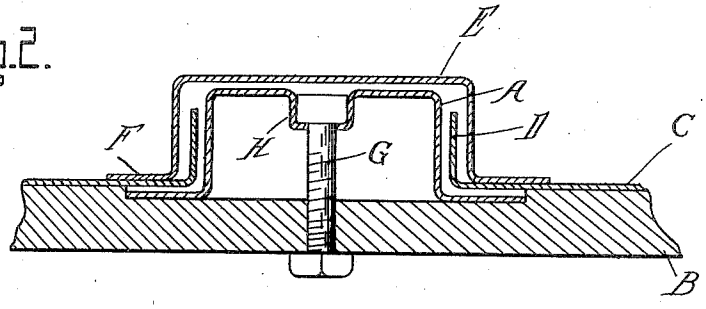
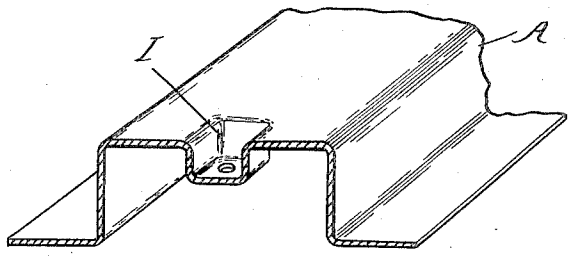


Fig. 3.



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UNITED STATES PATENT OFFICE.

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CAR-ROOF.

1,089,555. Specification of Letters Patent. Patented Mar. 10, 1914.

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To all whom it may concern:

Be it known that I, DAVID W. HAWKSWORTH, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to car roofs of the type comprising a skeleton framework of carlines, and purlins, and roofing sheets or plates arranged between the carlines weatherproofed by caps embracing the carlines, and upstanding flanges at the edge of the sheets.

The invention consists in the peculiar construction of the carlines and means of attaching the same to the purlins, and further in various features of construction as hereinafter set forth.

In the drawings—Figure 1 is a sectional perspective view of a portion of the roof frame; Fig. 2 is a section through the carline at the point of intersection with the purlin showing the roofing sheets and weather-proofing caps in position; Fig. 3 is a view similar to Fig. 1 showing a modified construction.

One of the advantages of the type of roof construction above referred to is the comparatively slight depth or thickness of the roof structure which results in increasing the capacity of the car by permitting a greater internal height.

It is the object of the present invention to still further decrease the vertical dimension of this roof structure by a novel carline construction and means of attaching the same to the purlins.

In detail, A is the carline and B a purlin of the roof frame.

C are the roofing sheets which are provided with the upstanding edge flanges D, and E is the weatherproofing cap embracing the carlines and edge flanges and having lateral flanges F resting upon the roof sheets.

The carlines A are formed as shown, of an inverted U-section having laterally and outwardly extending flanges A′ at the base. The purlins upon which the roof sheets C directly rest are supported from the carlines through the medium of hanger bolts G, preferably passing through the central point of crossing of the carlines and purlins.

To secure the bolts G to the carline they are provided with heads or nuts which must be arranged above the bearing portion of the beam and beneath the caps E. Thus if the heads or nuts were to be arranged above the plane of the web portion of the beam this would necessitate an additional height of the cap equal to the thickness of said head or nut. I have however, avoided the necessity of such a construction by forming depressed bearings in the carline permitting the nuts or heads to lie flush with the upper face of the web.

As shown in Fig. 1, the carlines A are rolled with a longitudinally extending central groove or depression H of sufficient width to receive the head or nut of the bolt, and of a depth equal to the thickness thereof. In Fig. 3 a modified construction is shown where the metal of the web is struck down at I to form a depressed bearing or socket for receiving the head or nut. With each construction, neither the bolt nor the head or nut will project above the web of the bearing and consequently the cap E may be decreased in height so as to just clear the beam.

What I claim as my invention is:

1. In a car roof, the combination with carlines, of inverted U-section, purlins and roofing sheets or plates supported thereon between the carlines, of weatherproofing caps embracing said carlines and the edge portions of said sheets, headed connecting members between said carlines and purlins, and a depressed bearing in the web portion of said carline for receiving the head of said connecting member and permitting said cap to lie flush with the top of the carline.

2. In a car roof a skeleton frame formed of crossing beams, one of said beams having a web portion, a laterally extending flange portion and a depressed bearing in the web portion positioned intermediate the planes of said web and flange portions, for receiving one end of a connecting member for said beams.

3. In a car roof, the combination with a carline, of a cap lying adjacent to a portion of said carline, a headed hanger supported from said carline, and a depressed bearing

in the portion adjacent to said cap for receiving the head of said hanger.

4. In a car roof, the combination with a carline, of a cap lying adjacent to a portion of said carline, a hanger provided with a non-circular head supported from said carline, and a depressed bearing in said portion of the carline adjacent to said cap for receiving the head of said hanger and preventing rotation thereof.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID W. HAWKSWORTH.

Witnesses:

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