W. D. THOMPSON.

CAR ROOF.

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1,247,743. **Patented Nov. 27, 1917.**

Fig. 1.

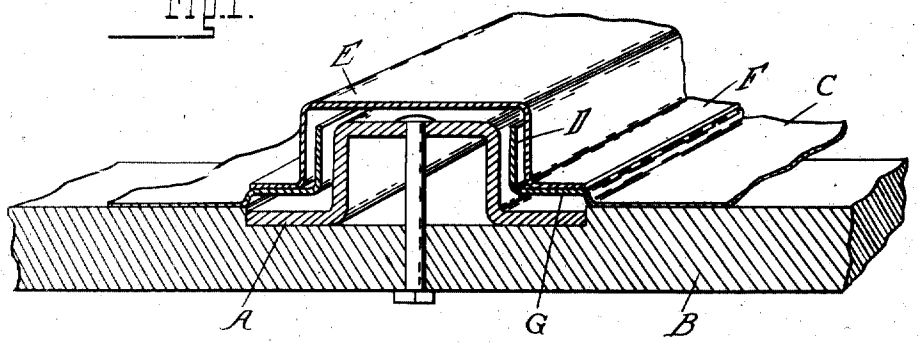


Fig. 2.

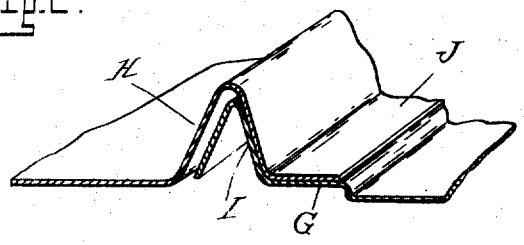
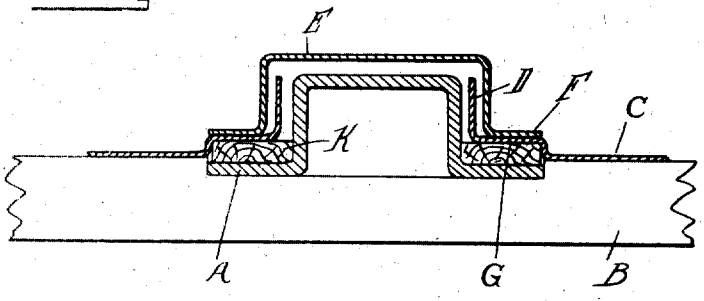


Fig 3



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM D. THOMPSON, OF DETROIT, MICHIGAN, ASSIGNOR TO HUTCHINS CAR ROOFING COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF MICHIGAN.

CAR-ROOF.

1,247,743. Specification of Letters Patent. **Patented Nov. 27, 1917.**

Application filed June 16, 1911, Serial No. 633,589. Renewed November 9, 1915. Serial No. 60,607.

To all whom it may concern:

Be it known that I, WILLIAM D. THOMPSON, 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 that type in which metallic roofing sheets or roofing plates are adjustably supported on the roofing frame and are provided with means for weatherproofing the sheets. The present invention relates to a construction of weather proofing means and has for its object the avoiding of certain defects in constructions heretofore used.

In the drawings,—

Figure 1 is a sectional perspective view of a portion of a car roof to which my improvement is applied;

Fig. 2 is a section showing a modified construction;

Fig. 3 is a section showing another modification.

In the present state of the art, roofs of the type above referred to have been constructed in which the roofing sheets or roofing plates are arranged between the carlines of the roof frames and are weatherproofed by being provided with upstanding flanges which together with the intermediate carline are embraced by weather proofing caps having outwardly extending foot flanges resting on the sheets. With this construction the sheets or plates are free to move independently of each other and of the carlines and caps, while the caps which are secured to the roof frame at the ridge and eaves are designed to prevent penetration of the water through the roof. It has been found however, that in a hard rain storm accompanied by a strong wind, the water which covers the joint between the cap flanges and the roofing sheets will be blown into the crevices and at times may even be thrown over the upstanding flange of the roofing sheet and into the car. This is due to the fact that it is difficult or impossible to keep the foot flanges of the cap in close contact with the roofing plates at all points in the roof, and if the conditions are such as to expose an opening at a point where the wind can blow the water through the objectionable results above specified will occur.

My improved construction avoids the defect by arranging the joint between the cap or weather sealing flange and the roofing sheet at a point above the plane of the sheet and where it will not be covered by the water collecting thereon. Thus as shown, A is one of the carlines and B a purlin of the roof frame and C are the roofing sheets or plates extending between carlines and supported on the purlins, said sheets being provided with the upstanding edge flanges D. E is the cap embracing the carlines, and the flanges D and F are foot flanges on the cap designed to bear against the sheets. Instead however, of resting the flanges F upon portions of the sheet C in the general plane of the roof, I form said sheets with raised bearing portions G beneath the flanges F. This will lift the line of the joint sufficiently above the plane of the sheet so that under no condition will the water collecting on the sheet rise to submerge the joint.

In Fig. 2 a construction is illustrated in which the adjacent sheets C are provided with engaging bent flanges H and I for forming the weather proofing joint, the outer flange being provided with a laterally projecting foot portion J. This foot portion rests upon a raised bearing G upon the opposite sheet similar in construction to that shown in Fig. 1 and which performs the same function.

In Fig. 3 a construction is shown in which the raised portion G is supported by a filler strip K which may be arranged above the lower flanges of the carlines and forms a bearing on which the portion G is free to ride.

What I claim as my invention is:

1. In a car roof, the combination with a cap having laterally extending flanges, of a roofing sheet having its edge embraced by said cap, said roofing sheet having a portion above and parallel to the remainder of the roofing sheet engaging said flanges.

2. In a car roof, the combination with a roofing sheet having an up-standing edge and an adjacent portion above and parallel to the main body of the sheet, of a cap embracing said up-standing flange and having a laterally extending flange engaging the adjacent raised portion of the roofing sheet.

3. In a car roof, the combination of a

roofing plate or sheet having a marginal portion raised slightly above and substantially parallel to the plane of the sheet, and a relatively movable weather-proofing member having a laterally-extending flange, the outer edge of which is exposed to the weather and contacts with and is movable over said raised portion.

4. In a car roof, the combination of a roofing plate or sheet having a marginal portion raised slightly above and substantially parallel to the plane of the sheet to form a shoulder or brake between said portion and the body of the sheet, and a relatively-movable weather-proofing member having its exposed edge contacting with said raised portion adjacent to said shoulder or brake.

5. In a car roof, the combination of a roofing plate or sheet having a marginal portion raised slightly above and substantially parallel to the plane of said sheet and forming a transversely-extending shoulder therebetween, an upstanding flange at the edge of said raised portion, and a relatively movable weather-proofing member embracing said upstanding flange and having a laterally-extending flange, the edge portion of which bears upon and is movable over said raised portion.

6. A seam construction for a car roof having movable roof sheets, said seam construction comprising a seam cover of inverted channel shape provided with outwardly projecting flanges along the lower edges of its side walls, in combination with the side margins of the roof sheets, said side margins being raised to a height above the supporting substructure and provided with edge flanges projecting up within said seam covers and spaced from the side walls thereof, the adjacent raised margins contacting flatwise with the under surface of the outwardly projecting flanges of the seam covers, whereby a tight sliding joint is maintained between said seam covers and roof sheets above the general level of the main drainage portion of said sheets.

7. A car roof comprising metal roof sheets arranged side by side with a clear space between them, said roof sheets having their side margins raised above the plane of support of the roof sheets and clear of the supporting substructure, seam covers bridging the spaces between said roof sheets and having lateral flanges resting flatwise on said raised margins, said lateral flanges terminating short of the junctions of the raised margins and the roof sheets, whereby a tight joint is maintained between said seam covers and roof sheets above the general level of the main drainage portion of said roof sheets.

8. A car roof comprising a substructure, roof sheets arranged transversely on said substructure and movably supported thereon, said sheets being spaced apart at their sides, the side marginal portions of said sheets being raised above the general drainage level of said sheets and having upstanding flanges at the edges thereof, and seam caps of inverted channel-shape bridging said upstanding flanges of the roof sheets and themselves having marginal flanges that bear flatwise against the raised marginal portions of the roof sheets.

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

WILLIAM D. THOMPSON.

Witnesses:
JAMES P. BARRY,
W. J. BELKNAP.