

UNITED STATES PATENT OFFICE.

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CAR-ROOF.

No. 858,825.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EDWARD POSSON, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented a new and useful Improvement in Car-Roofs, of which the following is a specification.

In certain car roofs comprising metallic sheets, it has formerly been the practice to fasten the edges of the sheets at the eaves by means of clips secured to the molding and extending up and over the edge of the sheet. These clips resist the tendency of the sheets to slide longitudinally at the same time that they hold the sheets down on the wooden sub-structure. This tendency of the sheets to slide longitudinally causes a strain upon the nails, bolts or other fastening means in the direction in which their resistance is least as the clips tend to turn outwardly about their lower ends as fulcra.

One of the objects of my invention is to overcome this objection by providing the clips which are to be placed at the ends of the standing seams with tongues which enter the seam and bear upwardly thereon. Thus, the seam will prevent any tilting of the clip.

A further object of the invention is to provide for the engagement of the tongue with the wooden sub-structure to prevent movement of the clip in a direction longitudinal of the tongue.

A further object of the invention is to provide a tongue so located as to hold the flanges of the hood of the clip out of engagement with the body of the roof-sheets.

Other objects hereinafter more fully appear.

In the accompanying drawings forming a part of this specification and wherein like symbols refer to like parts wherever they occur, Figure 1 is a sectional view taken longitudinally of a seam through a portion of a car roof near the eaves; Fig. 2 is a perspective view of the clip shown in Fig. 1; Fig. 3 is a transverse sectional view through the clip and roof-sheets; Fig. 4 is a sectional view similar to Fig. 1 but showing a modified clip; Fig. 5 is a perspective view of the clip shown in Fig. 4; and, Fig. 6 is a transverse sectional view through the clip and roof-sheets shown in Fig. 4.

The invention has been illustrated by an embodiment employing a roof having a wooden sub-structure 1 and a metallic sheathing consisting of sheets 2, 3 having interlocking rebent flanges forming a standing seam 4. While a roof of this class has been shown it is to be understood that the invention may be applied to a roof having a rolled seam or other form of hollow seam. The sheets extend down to the eaves and have a vertical flange overhanging the eaves. Between the seams, the edges of the sheets are fastened by angle clips secured to the molding 5 of the car. At

the end of the standing seam 4 the fastening clip is arranged. It comprises a base or plate 6 adapted to bear upon the molding 5 and provided with a hole 7 through which the nail, bolt 8 or other fastening means may pass; a hood 9 projecting from said base 6 and adapted to fit over and embrace the seam 4; and a tongue 10 projecting from said base 6 and adapted to enter the seam 4. The clip with all its parts is preferably a single integral casting having, in effect, a groove around the tongue to accommodate the seam. The end of the seam bears against the base of the clip which thus resists the tendency to downward movement of the sheets. The tongue bears upwardly upon the seam and thus the tilting of the clip and the consequent tendency to pull out its fastening means is prevented. In this the hood assists, though it is not indispensable, because the seam is cramped between the tongue and the hood.

In Figs. 4 to 6 a modified form of the clip is shown which differs from the one just described in the construction of its tongue. The tongue 11 of the modified clip enters the seam 4 of the roof-sheets in the same manner as the tongue 10. It, however, depends below the flanges of the hood a distance a little greater than the thickness of the roof-sheets. Thus the tongue 11 will bear upon the wooden sub-structure and will hold the flanges out of contact with the body of the roof-sheets, contact being made with the seam only. This construction is advantageous because there is often a slight relative movement of the roof-sheets and of the clips. If these are in contact the protecting coating of the sheets may be rubbed off and the sheet exposed to rust. The close contact of the sheets and flanges of the clip tends to hold water in contact with the worn places by capillary attraction. All this is avoided when the flanges of the clips are held up by the tongue. The same advantage may be secured for a rolled seam by so designing the tongue that it shall bear upon the bottom part of the seam and so hold the flanges of the clips out of contact with the roof-sheets.

The tongue 11 is provided on its lower face with a plurality of small projections 12 which may be sunken in the wooden sub-structure of the roof and thus increase the resistance of the clip to movement longitudinal of the seam.

Obviously, my device is capable of modification within the scope of my invention and, therefore, I do not wish to be limited to the specific construction shown and described.

What I claim as my invention and desire to secure by Letters Patent is:

1. A car roof comprising a sub-structure, roof sheets joined by hollow seams and fastening clips arranged to be secured to the side of the car and having tongues projecting endwise into said hollow seams longitudinally thereof.

2. A car roof comprising a sub-structure, roof sheets joined by hollow seams and fastening clips arranged to be secured to the side of the car and having tongues projecting endwise into said hollow seams longitudinally thereof and arranged to have an upward and a downward bearing in the vertical plane of said seam.

3. A car roof comprising a sub-structure, roof sheets joined by hollow seams and fastening clips arranged to be secured at the side of the car and having tongues projecting endwise into said seams longitudinally thereof and bearing upon said sub-structure, said tongues being provided on their lower faces with projections.

4. A car comprising a sub-structure, roof sheets joined by hollow seams and fastening clips arranged to be secured to the eaves and having hoods covering the ends of said seams and tongues projecting endwise into said hollow seams longitudinally thereof.

5. A car roof comprising a sub-structure, roof sheets joined by hollow seams and fastening clips arranged to be secured to said sub-structure and having hoods covering the ends of seams and tongues projecting into said seams, longitudinally thereof, the lower face of the tongue of each of said clips lying in a plane below the plane of the lower edge of the hood.

6. A car roof comprising a sub-structure, roof sheets joined by hollow seams and fastening clips arranged to be secured below the edges of said sheets and having hoods covering the ends of said seams and tongues projecting endwise into said seams longitudinally thereof and bear-

ing upon said sub-structure, the lower faces of said tongues being provided with projections.

7. A clip for a car roof comprising a base adapted to be secured to the eaves of the car, a hood projecting from said base and a tongue arranged within said hood.

8. A clip for a car roof comprising a base adapted to be secured to the eaves of the car, a hood projecting laterally from said base and adapted to fit over the roof seam, and a tongue projecting laterally from said base and within said hood, said tongue being adapted to enter the hollow of said seam longitudinally thereof and the lower face of said tongue lying in a plane below the plane of the lower edge of said hood.

9. A clip for car roofs comprising a base, a hood projecting laterally from said base and a tongue projecting laterally from said base and within said hood, the lower face of said tongue being provided with projections.

10. A car roof comprising a sub-structure, roof sheets joined by hollow seams, and a series of fastening clips arranged to be secured to the side of the car each having a tongue projecting endwise into said hollow seams longitudinally thereof.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses this 23rd day of October, 1905, at Chicago, Illinois.

EDWARD POSSON.

In the presence of—

H. L. LUITAR,

DENNIS MURTAUGH.