T. N. RUSSELL.

CAR ROOF.

APPLICATION FILED MAR. 4, 1914.

1,186,841. Patented June 13, 1916.

Fig 1

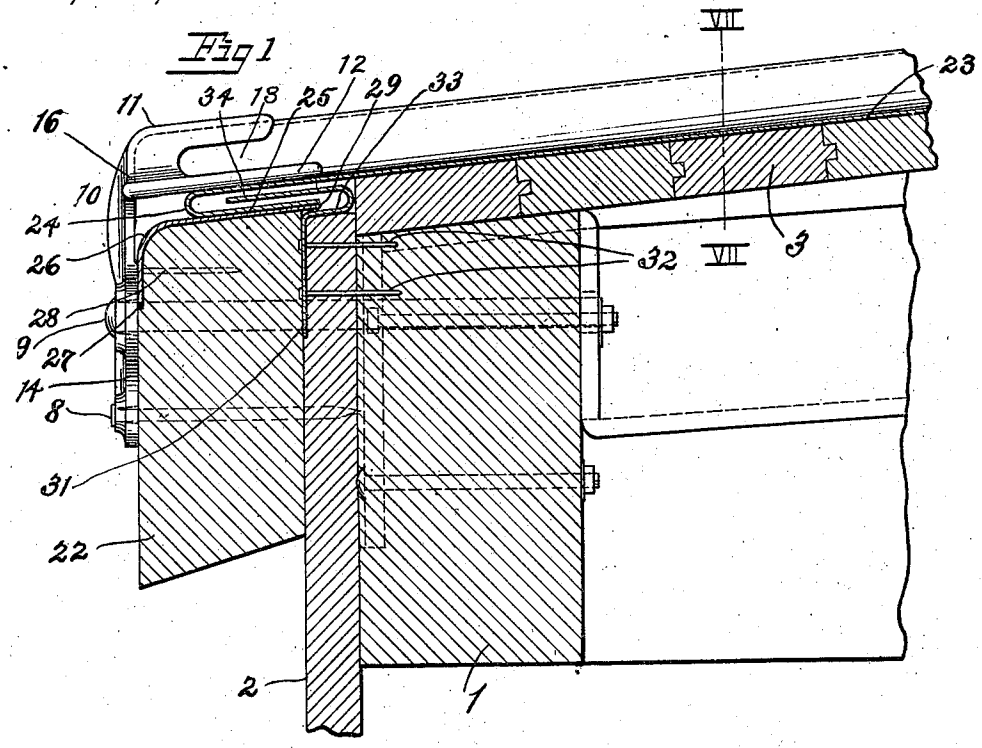


Fig 2

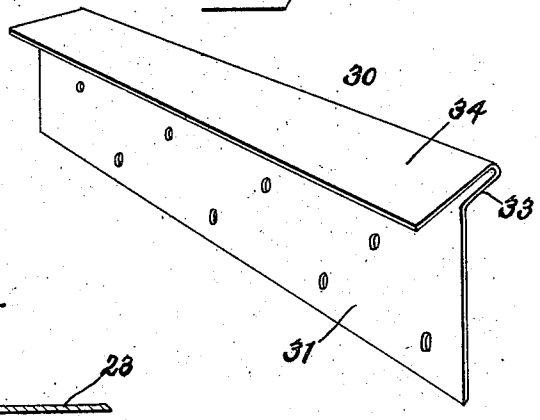
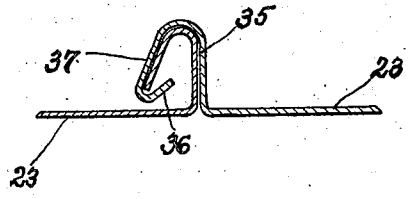


Fig 3



Witnesses

Russel N. Lowe

N. N. Lowe

Inventor

Thomas Nathan Russell

By Munday, Evarts, Adcock & Clarke

his Attorneys

UNITED STATES PATENT OFFICE.

THOMAS NATHAN RUSSELL, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO-CLEVELAND CAR ROOFING COMPANY, A CORPORATION OF ILLINOIS.

CAR-ROOF.

1,186,841. Specification of Letters Patent. Patented June 13, 1916.

Application filed March 4, 1914. Serial No. 822,258.

To all whom it may concern:

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

The invention relates to outside metal car roofs, and more particularly, and principally, to the means for securing the roof sheets at the eaves and for finishing the eaves of the roof and consists in the parts and combinations thereof hereinafter set forth and claimed.

My invention relates to the type of car-roof construction set forth in my Patent No. 1,173,220, issued Feb. 29, 1916, and in the Mathews Patent No. 782,979, issued Feb. 21, 1905.

In order to make the invention more clearly understood, there are shown in the accompanying drawings means for carrying the same into practical effect without limiting my improvements, in their useful applications, to the particular construction which, for the purpose of example, has been delineated.

In said drawings:—Figure 1 is a sectional view of an improved form of roof having the improved seam clip applied thereto. Fig. 2 is a perspective view of a portion of the eaves strip. Fig. 3 is a vertical section of the roof sheet seam, on line VII—VII of Fig. 1.

Referring to the drawings, 1 indicates a side plate, 2 the side sheathing, 3 the top sheathing, 22 a side fascia and 23 the roof sheets, the latter being formed along their sides with interlocking inverted V-flanges (Fig. 3) forming the seam which unites the roof sheets along lines extending from the ridge to the eaves of the roof. The fascia is secured by nails 8 and bolts 9, the latter passing through the side plates.

The parts above referred to constitute an outside roof of known form, such as that described in the expired Patent No. 554,287 dated Feb. 11, 1896; but other constructions of roof suitable for the purpose may be used.

10 is the seam clip made as a one piece malleable casting, and formed with a hood 11 which incloses the outer ends of the said roof sheet seam flanges. The side walls of this hood are at their lower edges extended horizontally away from the seam to form tongues 12 which fit loosely upon the top surfaces of the eaves ends of the roof sheets to hold them down in place, but allow any necessary horizontal movement. Between these tongues and the top part of the hood the side walls of the latter are formed with openings 13, to allow of the escape of some cinders and dust and the drying out of moisture. The clip is also formed with a central attaching leg 14 which unites with the end wall of the hood. The upper part 16 of this leg closes the otherwise open end of the roof sheet seam, and is formed with a recess in which are received the depending eaves flanges 27 of the flashing. The leg is also perforated with a bolt hole, and a nail hole in its lower extremity, in which may be received certain of the said securing bolts 9 and nails 8, respectively.

In Fig. 1 is shown the eaves portion of the improved form of roof.

22 is the side fascia shown as a single element applied directly against the side sheathing.

23 indicates the roof sheet which terminates over the fascia in a downward bend 24 from which an inturned flange 25 extends under and parallel with the main body of the sheet.

26 is an eaves flashing in the form of an angle plate, the vertical member 27 of which incloses the top part of the outer side of the fascia 22 and is secured thereto by nails 28. The other angle member 29 extends inward over the said fascia and beyond the inner face thereof, lying below the roof sheet flange 25, which latter is shiftable on and over the member 29.

30 is an eaves strip or hook-stripping of gooseneck or T-form in cross section, having a vertical flange 31 which incloses the outer edge of the top sheathing and is confined beneath the fascia. It is secured to the side sheathing and side plate by nails 32. At the upper end of the flange 31 the eaves strip is bent inward and then outward, forming lower and upper parallel flanges 33, 34, which include between them the inner edge of the flashing member 29. The upper eaves strip flange 34 enters between the roof sheet and its flange 25. The fascia is secured to the side plate by the through bolt 9.

While the eaves flashing 26 is in place the roof is rain tight and the fascia, and parts

of the side sheathing with which it contacts, are protected from rotting. In case the eaves flashing is side wiped and torn off the roof remains rain tight in the absence of the flashing and until it is repaired, by reason of the water excluding joint between the eaves strip and roof sheet, which is protected by the fascia.

In the arrangement shown the eaves strip performs the double function of forming a rain-tight joint for both the eaves strip and the flashing, for the protection of the top sheathing and of the top parts of the fascia and side sheathing. The gooseneck form of the hook-stripping, as particularly well illustrated in Fig. 2, also tends to materially stiffen and strengthen the stripping, and that is a practical consideration that is important because of the relatively thin metal of which such stripping must generally be formed in practice; and such gooseneck or somewhat T-shaped cross-sectional form also facilitates firmly seating the hook-stripping and definitely locating its free outer extension at the required uniform level above the plane of the top of the fascia that secures the stripping to the car.

The seam which joins the sides of the roof sheets is formed by side flanges of the sheets, which flanges may be termed rights and lefts, the two flanges of each sheet being of different arrangement so that the flange of one sheet incloses the differently arranged flange of the contiguous sheet, and the seam is formed above one of the sheets. The two said flanges are of substantially inverted V or U-form. The outer or inclosing flange 35 extends beyond the body of the sheet, and has a terminal upwardly and inwardly bent lip 36 which reënters within the inner flange of the next sheet. The said inner or inclosed flange is shown at 37 and it is bent to overhang the sheet on which it is formed. The outer end of this seam is embraced by the hood 11 of the seam clip 10, and the joint between the roof sheets is opposed by the central leg portion 16.

The side sheathing is carried up at the outside of the top sheathing and stops short of the top of the latter, and the top of the side fascia is substantially level with the top of the side sheathing, so that a recess is provided for the eaves strip and eaves flashing without rabbeting the outer edge of the top sheathing.

I do not in this application claim the roof sheet side seam clip, the same being the subject of my copending application Serial #96,853, filed May 11, 1916.

What I claim is:

1. In an outside metal car-roof, in combination: a roof-sheet having its eaves-end rebent within the outer eaves-line of the roof; hook-stripping of substantially gooseneck cross section engaging such rebent sheet-end and having a depending member secured within such eaves-line, and adapted to have a fascia applied outside of said depending member and secured to the underlying structure, said hook-stripping having lower and upper parallel flanges, the lower of which extends inward from said depending member and the upper of which extends outward over and beyond said depending member; and a flashing for inclosing the upper part of the fascia and freely entered between said rebent sheet-end and the said depending member and extending inward and protecting the joint between such fascia and said depending member of the hook-stripping; whereby the said location of the depending member of the hook-stripping permits the shortening of its aforesaid lower flange with an increase of its stiffness and strength for the securing of the roof sheet.

2. In an outside metal car-roof, in combination: a roof-sheet having its eaves-end rebent within the outer eaves-line of the roof; hook-stripping of substantially gooseneck cross section engaging such rebent sheet-end and having a depending member secured within such eaves-line in the joint between the side sheathing and the fascia, and a fascia applied outside of said depending member and secured to the underlying structure, said hook-stripping having lower and upper parallel flanges, the lower of which extends inward from said depending member and the upper of which extends outward over and beyond the said joint and over a part of said fascia; and a flashing for inclosing the upper part of the fascia and freely entered between said rebent sheet-end and the said depending member and extending inward and protecting the joint between such fascia and said depending member of the hook-stripping; whereby the said location of the depending member of the hook-stripping permits the shortening of its aforesaid lower flange with an increase of its stiffness and strength for the securing of the roof sheet.

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

THOMAS NATHAN RUSSELL.

Witnesses:

OSCAR A. DE MAN,

BLANCHE SHIELDS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."