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L. E. RUEHLMANN

1,855,694

ROOF JOINT

Filed June 18, 1929

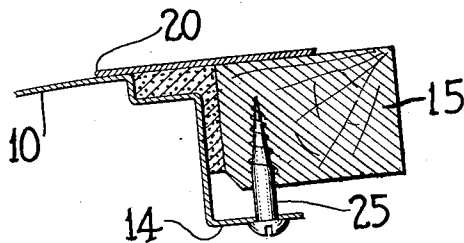
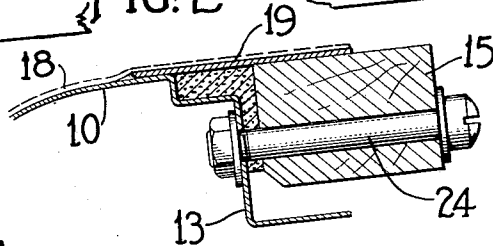
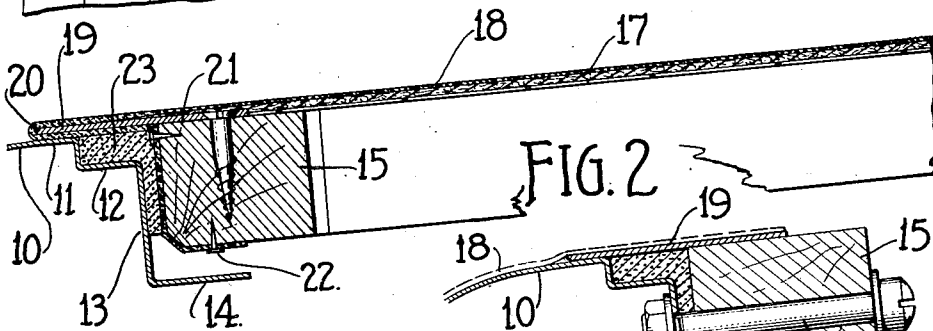
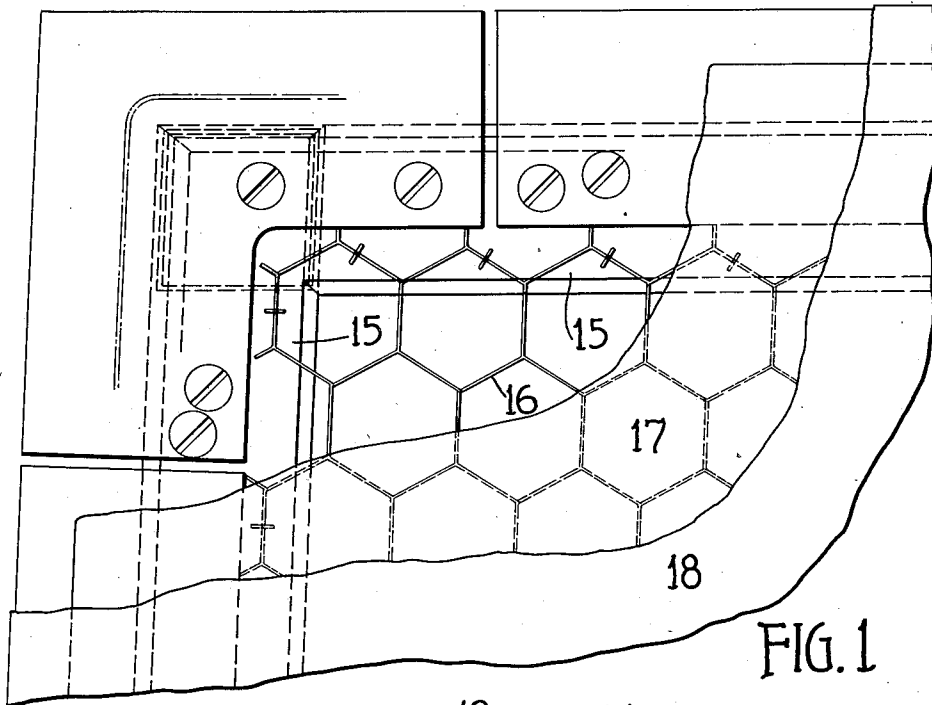


FIG. 4.

FIG. 3

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ROOF JOINT

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My invention relates to vehicle joint constructions and more particularly to improvements in the joint formed between a vehicle roof and the supporting header therefor such as extends along the sides, front or back of a vehicle, these roof supporting headers being commonly made of sheet metal.

The present practice is to construct vehicle roofs in the form of a wooden framing suitably strengthened by a wire netting secured to the upper surface thereof, the roof structure being completed by covering the netting with a padding and by applying a suitable weather proof fabric over the padded surface of the roof. This type of roof is popular and in more or less general use not only because it is relatively inexpensive to manufacture, but also because it is sufficiently light in weight and soundproof as respects direct and induced noises. My invention has as one of its principal objectives the production of a much more perfect joint between the vehicle roof and its metal supporting headers than has been possible heretofore. Other objects are to produce a joint which is neat in appearance, which is more than adequately strong, and which is thoroughly leakproof.

According to my invention I form the metal roof supporting header with a depression in its roof supporting margin constituting a rabbet, and I then downwardly flange the inner marginal edge of the rabbet. The frame of the roof I depend within the downwardly flanged portion of the header with the perimetral edge of the frame disposed in spaced relation with respect to said flanged portion. The roof is supported in position by an outwardly projecting overlap in the shape of a metal flange which latter is adapted to rest upon the roof supporting margin of the header. This metal flange or overlap is covered by a weatherproof covering which is extended outwardly to the edge of the overlap, thence inwardly along its under surface for securement to the frame in the corner between its main body and the overlap, the covering being then carried downwardly along the outside of the frame and under the frame where it is again secured in place. The rabbet and the space afforded between

the proximate perimetral edges of the frame and supporting header jointly constitute a recess of substantially angular form which I fill with cement-like or plastic material adapted to subsequently harden. As the roof structure is positioned upon its supporting header this cement-like material is caused to completely fill the angular recess and in so doing serves to effectually seal and weatherproof the joint between roof structure and its supporting header. Other advantages of my invention will be apparent upon presentation of a more complete mental picture of the structure.

Such a picture is presented in the drawings, of which,

Fig. 1 is a plan view of a corner of a roof entering into my invention, with a roof covering and padding shown broken away to show the parts interiorly thereof.

Fig. 2 is a cross section of a completed construction including the supporting header.

Fig. 3 is a similar view showing one form of securing means between the header and the roof, the covering being omitted.

Fig. 4 is a similar view showing another form of securing means between the header and the roof frame.

10 is the header. It is of the sheet metal construction and its complete cross section in most of the usual practices would be arc shaped as it recedes from the roof. This is suggested in Figs. 3 and 4 more markedly than in Fig. 2. Its roof supporting margin 11 is downwardly depressed as at 12 to form a rabbet at the margin. Thence it is flanged downwardly as at 13 and finally inwardly as at 14.

The roof per se, is comprised of a wooden frame of perimetral members 15 and at times suitable cross pieces (not shown). This frame is braced by an overlying wire netting 16 secured by staples to its members. Overlying the netting 16 is a padding 17 and overlying the padding a weather proof covering 18.

The perimetral frame members 15 are dependent from the top of the vehicle within and spaced from the flange 13 of the supporting margin of the header 10, as clearly

appears in Figs. 2 to 4. But the roof is supported in place by outwardly extending overlaps 19 in the form of metal strips secured to the tops of the frame members 15. These strips overlie the rabbets 12 and bear upon the immediately joining portions of the supporting margin 11. The covering 18 is carried over the outer edges 20 of these overlaps thence inwardly along their under sides, and is glued to the undersides and then nailed as at 21 in the corner between the under sides and the frame members 15. Thence it is carried downwardly along the side of the frame 15 opposite the marginal portion 13 and under the frame members where it is again nailed as at 22. This arrangement of the fabric is, of course, all done during the fabrication of the roof per se comprising the frame, its coverings and the overlap 19.

Within the angular space formed by the rabbet 12 and the space between the depending frame 15 and the depending marginal portion 13 is cement-like material 23 contacting with all the adjacent parts in its corresponding angularly shaped mass and cementing and sealing the adjacent surfaces together in weather proof relation. In assembly before the roof structure per se comprised of parts 15 to 22, is placed upon the header 10 in supporting relation, the cement-like material 23 is put into the rabbet 12 and along depending margin 13, and then the roof structure per se is lowered into place in such manner that the underlying portions of the fabric 18 which overlie the rabbet 12 and are juxtaposed to the marginal flange 13, bear down upon the cement-like material, and forces it into all parts of the space and into intimate relation to the adjacent surfaces. As the overlap 19 is borne down upon the adjoining portion of the margin 11 upon which it is seated. As the cement-like material hardens, the support from margin 11 is augmented through the cement-like material and the directly inter-engaged outer portion of the overlap and margin 11.

Fig. 3 shows the manner of clamping the parts in place by horizontally arranged through bolts 24 between the marginal flange 13 and the frame member 15, while Fig. 4 shows such securement by means of vertically extending screws 25 between the horizontally extending flange 14 and the frame members 15. In this case the coverings of the frame are omitted, but it is to be understood that they may or may not be included as in the instance of Fig. 1. The covering 18 may indeed, instead of being carried beneath the overlap 19, be carried beyond it and over the outer surface of the header, as indicated in dotted lines in Fig. 3. This latter practice is preferred by some builders.

Doubtless there are other modifications of my invention, and all of them should be comprehended in the annexed claims.

What I claim is:

1. In a vehicle, a roof supporting header of double-angle vertical cross-section, a roof structure having an under-cut margin so fitted to the header as to provide an angular space between the header and the under-cut margin of the roof structure, and a cement-like material disposed within said angular space and adapted to effectively seal the proximate portions of the header and roof structure.

2. In a vehicle, a sheet metal roof supporting header having a downwardly depressed shelf-like flange merging in a downwardly directed flange, a roof structure having a main body disposed within said header with the perimetral edges thereof in spaced relation with respect to the downwardly directed flange of the header, and a cement-like filler adapted to be pressed into the space between the proximate surfaces of said header and roof structure when the latter is positioned within the former.

In testimony whereof I hereunto affix my signature.

LOUIS E. RUEHLMANN.