

W. P. MURPHY.

CAR ROOF.

APPLICATION FILED AUG. 10, 1910.

992,578.

Patented May 16, 1911.

3 SHEETS-SHEET 1.

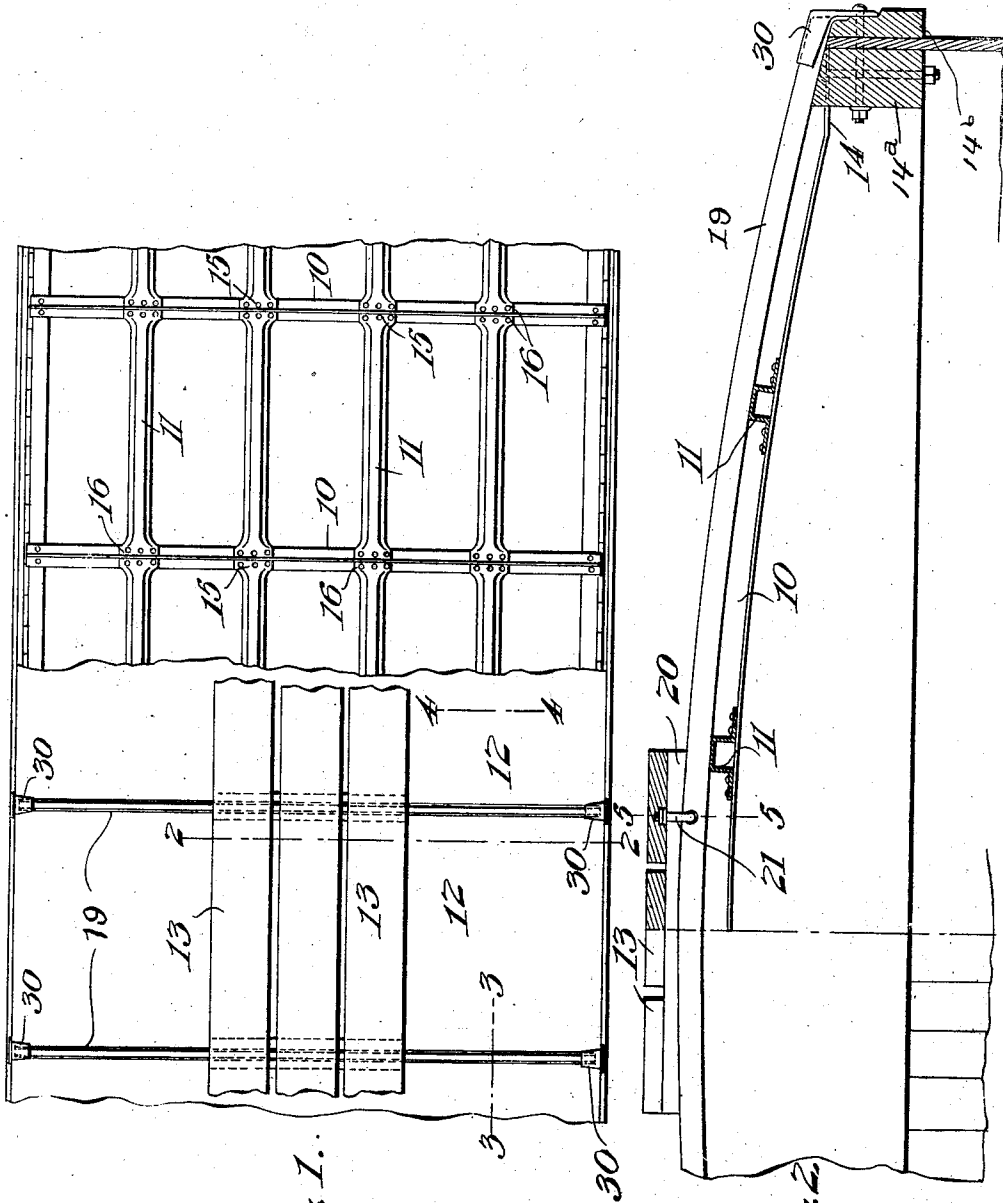


Fig. 1.

Fig. 2.

WITNESSES

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3 SHEETS-SHEET 2.

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Fig. 4.

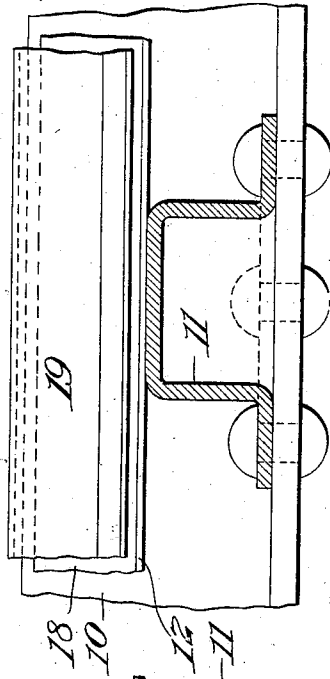


Fig. 6.

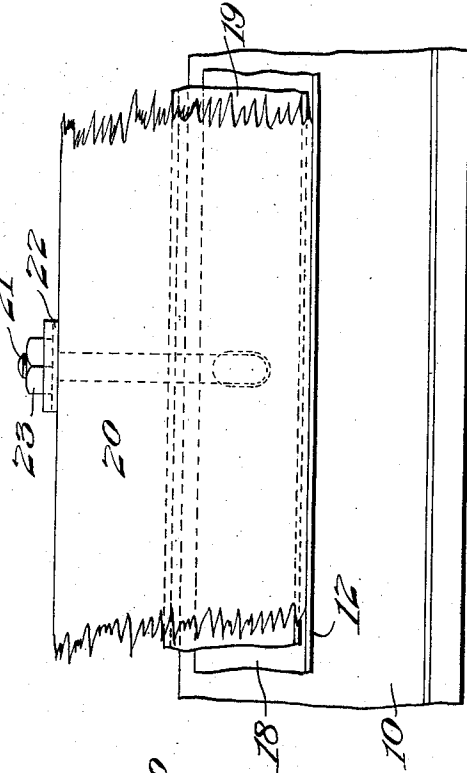


Fig. 3.

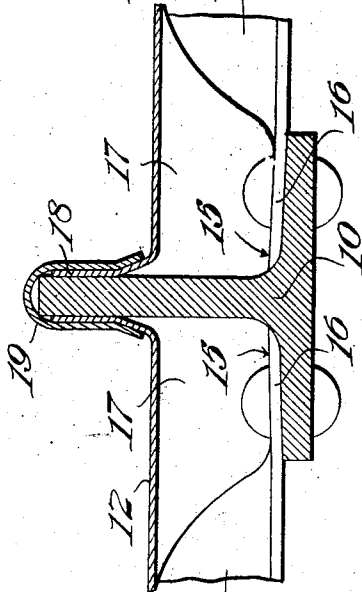
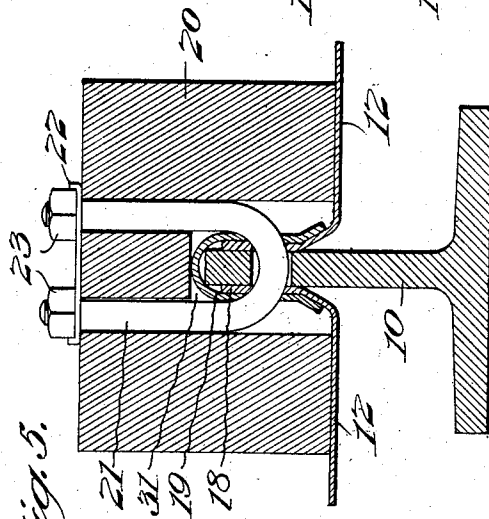


Fig. 5.



WITNESSES

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3 SHEETS—SHEET 3.

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Fig. 7.

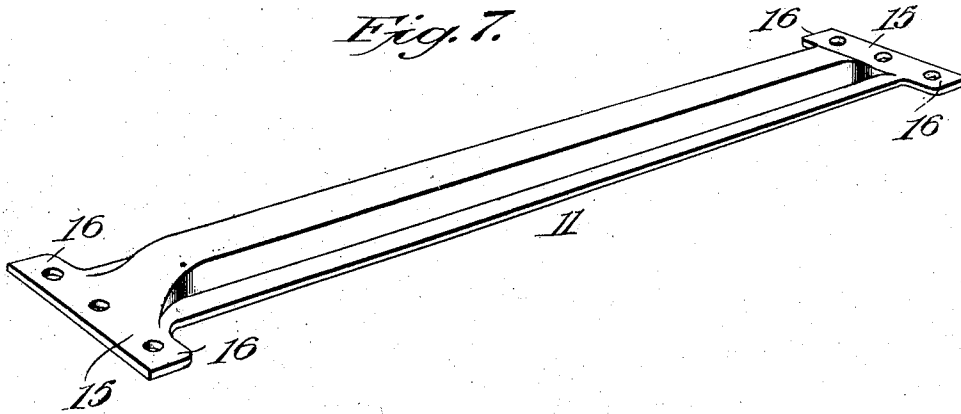


Fig. 8.

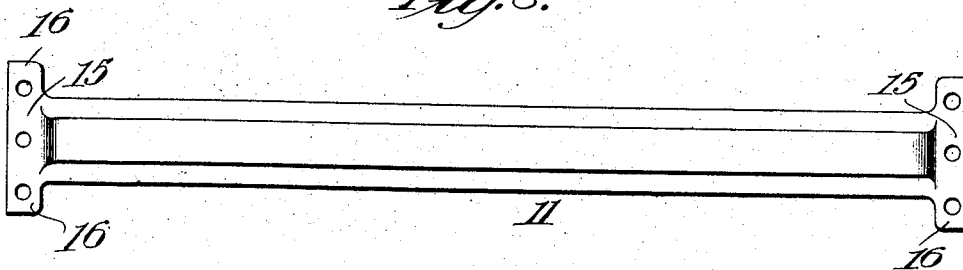


Fig. 9.

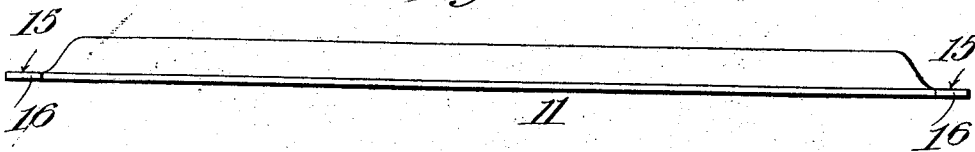
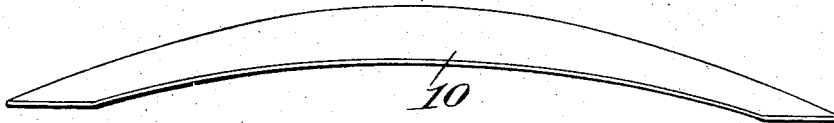


Fig. 10.



WITNESSES

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UNITED STATES PATENT OFFICE.

WALTER P. MURPHY, OF CHICAGO, ILLINOIS.

CAR-ROOF.

992,578.

Specification of Letters Patent. Patented May 16, 1911.

Application filed August 10, 1910. Serial No. 576,545.

To all whom it may concern:

Be it known that I, WALTER P. MURPHY, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification.

The object of my invention is to provide a car roof of a construction that will increase the rigidity of the roof structure; to increase the head room, distribute the wearing area of the sheets, which sheets extend from eave to eave, and effect a saving of material at the margins of the sheets.

In the drawing, Figure 1 is a top plan view of a car, broken away; Fig. 2 is a transverse sectional view of the same on the line 2—2; Fig. 3 is a sectional detail view on the line 3—3, Fig. 1; Fig. 4 is a detail sectional view on the line 4—4, Fig. 1; Fig. 5 is a detail sectional view on the line 5—5, Fig. 2, parts being in elevation; Fig. 6 is a side elevation of the same; Fig. 7 is a perspective view of a purlin according to my invention; Fig. 8 is a top plan view of the same; Fig. 9 is a side elevation of the same; and Fig. 10 is a side elevation of the carline.

A car roof constructed according to my invention is composed of the carlines 10, purlins 11, roof sheets 12 and running boards 13. The carlines are formed from commercially formed tee or flanged metal which is bent to a suitable arc to give the desired pitch to the roof toward the eaves. The carlines are suitably secured at their ends to the sill 14^a.

14^b is a fascia having a reduced upper portion against which the ends of the roof sheets rest, the increased thickness of the fascia protecting the sheets and clips against side scraping and corning. The purlins are constructed from commercially formed flanged channel metal, the ends of which are spread laterally beyond the body lines into one plane as at 15, forming extended arms, lugs or ears 16, which rest on the base flange of the carlines and with the portion 15 constitute an extended bearing for the purlins on the base flange of the carlines, thereby securing a bracing effect on the carlines, thus increasing the rigidity of the roof structure throughout its entire area. Preferably, I provide the extended bearing of the purlins with three rivet holes whereby the ends of the purlins are very firmly secured to the carlines.

The object of constructing the purlins with an extended bearing at each end on the carlines is to distribute the diagonal strain of the roof frame evenly throughout the roof structure, thereby eliminating the twisting and warping of the frame. By spreading the ends of the purlins beyond the body lines, I obtain an extended bearing for them beyond their body lines without employing any extra plates, rods, etc., and at the same time reduce the number of rivets, bolts, etc., incident to the use of plates. The tensile and compression strength of the purlins is increased by this construction. The portions 16 act as braces and resist and distribute the twisting and warping movement of the roof structure, thus reducing the damage to roof sheets incident to such motions of a car.

As shown in the drawings, the roof sheets 12 curve and extend in one sheet from eave to eave, therefore the carlines are, as shown, of continuous curvature thereby tending to eliminate the tendency of the continuous sheets to tear at the ridge.

The spreaded end of the purlins constitute a seat for a filler block 17 on each side of the carline and enable me to employ a comparatively high web on the carline and at the same time have a comparatively low seam on the roof. The roof sheets 12 rest on the purlins and have their side edges 18 bent up against the sides of the web of the carline as shown in Fig. 3, thus effecting a saving of material at the margins of the sheets, represented by the usual rolled, flat or other seam.

19 is a cap running from eave to eave of the car, fitting over the top of the carline and embracing the upturned edges of the roofing sheets, as shown, to prevent the entrance of the elements, cinders, etc., from entering the car.

Considerable difficulty has been experienced in securely anchoring the saddle 20 on the car roof. I overcome this difficulty by forming a hole through the web of the carline and, of course, through the upturned edges of the roofing sheets and the cap, and passing therethrough the U-shaped bolt or clevis 21, the ends of the bolt 21 passing through the saddle, as shown in Fig. 5.

22 is a plate on top of the saddle having openings through which the ends of the bolt 21 pass. 23 are nuts on the ends of said bolt. From the construction shown, it will

be seen that I securely anchor the saddle 20 to the carline against any movement, thus eliminating all liability of its slipping. The running boards 13 are secured in the usual way to the saddles 20. The under face of the saddle is provided with a groove 31 into which the carline and roof seam fits.

The ends of the seams of the roofing sheets are covered by a suitable clip 30.

10 What I claim is:—

1. In a car roof, the combination with flanged carlines, of purlins of flanged-channel metal, the channel being brought into the plane of the flanges at the ends of the purlin, the ends being spread laterally beyond the body lines of the purlin, thereby securing a bracing effect when the ends are riveted to the flange of the carline, and an increase in head room is obtained.

20 2. In a car roof, the combination with flanged carlines, of purlins of flanged channel metal, the channel being of less height than the web of the carline and brought into the plane of the flanges at the ends of the purlin, the ends of the purlin being spread laterally on each side beyond the body lines of the purlin, thereby securing a bracing effect when the ends are secured to the flange of the carline.

30 3. In a car roof, the combination with flanged carlines, of purlins of flanged channel metal, the channel being of less height than the web of the carline and brought into the plane of the flanges at the ends of the purlin, the ends of the purlin being spread laterally on each side beyond the body lines of the purlin, thereby securing a bracing effect when the ends are secured to the carline, and roofing sheets extending from eave to eave of the car and supported by the purlins with their edges bent up against the sides of the carline, whereby a low seam is obtained and a cap extending from eave to eave and covering the top and sides of the

carline and upturned edges of the roofing sheets. 45

4. In a car roof, the combination with a flanged carline having an opening in one of its flanges, of a running board saddle having a groove in its under face constructed to receive said flange, a U-shaped bolt secured in said opening and passing through the saddle and secured thereto firmly.

5. In a car roof, the combination with a flanged carline having an opening in one of its flanges, roof sheets, the side edges of which are bent up against said flange, and a cap covering the top and sides of said flange of the carline and the upturned edges of the roof sheets, said cap and edges having an opening registering with the opening in the said flange of the carline, of a running board saddle having a groove in its under face to receive said flange cap and upturned edges, and a U-shaped bolt secured in said opening in the said edges, cap and said flange with its ends passing through the saddle and suitably secured thereto whereby the saddle is anchored against shifting.

6. In a car roof, the combination with a flanged carline having an opening in one of its flanges, roof sheets, the side edges of which are bent up against said flange, of a running board saddle having a groove in its under face to receive said flange and the upturned edges of the roof sheets, and a U-shaped bolt secured in said openings in said edges and flange with its ends passing through the saddle and suitably secured thereto, whereby the saddle is anchored against shifting.

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

WALTER P. MURPHY.

Witnesses:

HARRY W. STANNARD,

JOSEPHINE A. HARTNETT.