

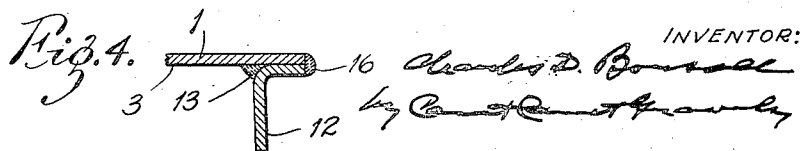
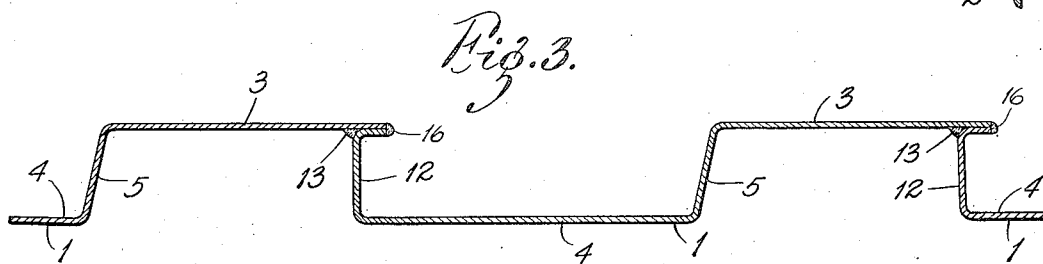
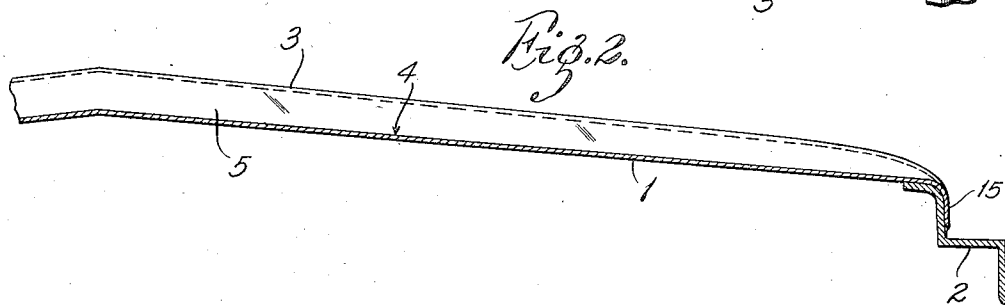
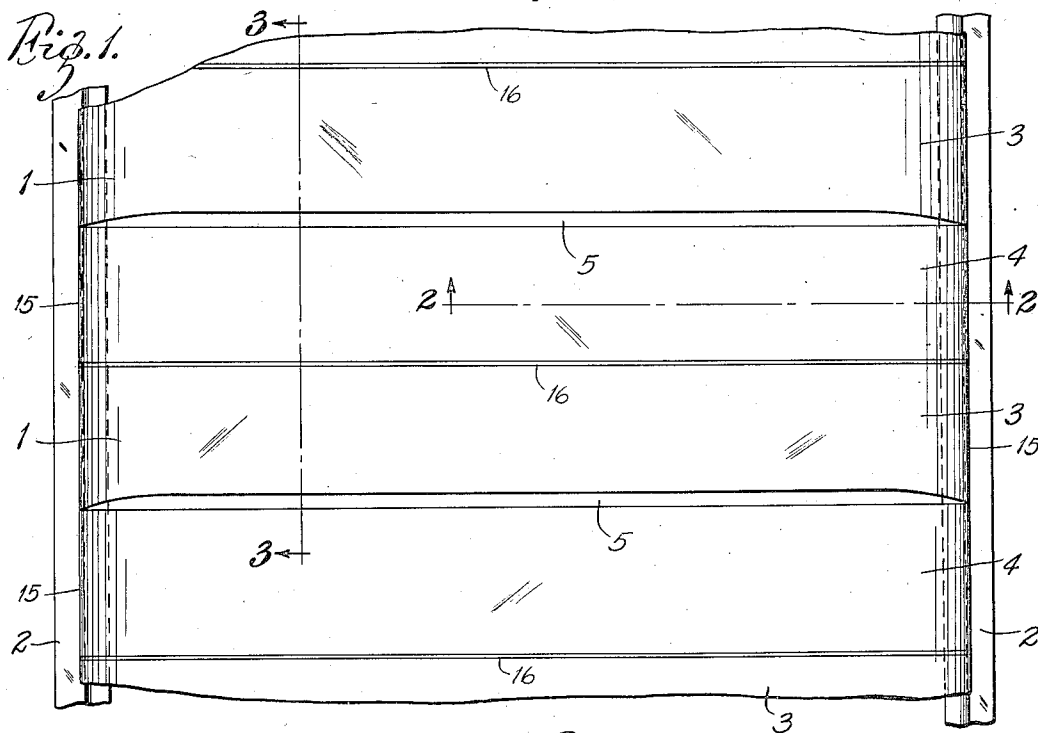
March 17, 1936.

C. D. BONSALE

2,034,381

CAR ROOF

Filed Sept. 16, 1935



INVENTOR:

Charles D. Bonsale
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HIS ATTORNEYS

UNITED STATES PATENT OFFICE

2,034,381

CAR ROOF

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Pa., a corporation of Pennsylvania

Application September 16, 1935, Serial No. 40,749

3 Claims. (Cl. 108—5.4)

This application is a continuation in part of my copending application for patent for improvement in Car roof, Serial No. 659,493 filed March 3, 1933.

The invention consists in the arrangements and combinations hereinafter described and claimed.

In the accompanying drawing, wherein like reference numerals refer to like parts wherever they occur,

Fig. 1 is a plan view of a portion of a car roof embodying my invention,

Fig. 2 is a vertical transverse section through one-half of the roof on the line 2—2 of Fig. 1,

Fig. 3 is a vertical section longitudinally of the car through a portion of the roof on the line 3—3 of Fig. 1, and

Fig. 4 is a detail view illustrating the seam construction of Fig. 3.

According to the present invention, roof sheets 1 extend from side plate 2 to side plate 2 and have flat end portions 15 which are turned down beyond and secured to the side plates 2. Between the eaves, each roof sheet is offset near the longitudinal middle thereof to form an upper panel 3, a lower panel 4 and a substantially vertical web 5 integral with said panels, which web gradually decreases in depth in its end portions until it vanishes at the eaves and the two panels merge into the flat end portions.

In the construction illustrated, the upper panel 3 is plain and the lower panel 4 has an upstanding angular marginal flange 12. The sheets are all arranged in the same way with the margin of the plain upper flange resting flatwise on the horizontal portion of the upstanding angular flange 12 of the adjacent sheet with their edges substantially flush and secured together by welds 16. In the case of thin sheets, it is preferable to weld them by arc welding; but in the case of thick sheets, the welds may be of added high tensile metal which has the advantage of increasing the strength of the compressive region of the roof considered as a beam.

In the construction illustrated, the sheets are so made and spaced that the distance from the vertical portion of the upstanding flange of one sheet to the web of its own sheet is greater than the distance from said flange to the web of the sheet next adjacent thereto. This arrangement, coupled with the fact that the top panel projects beyond the vertical portion of the flange of the next sheet and is reinforced by the horizontal portion of said flange, serves to increase the efficiency of the upper panels in taking care of compression stresses. In order to further increase such efficiency, it is desirable to use a second weld 13, namely, a weld of added metal

at the angle between the upper panel and the upright portion of the said flange.

What I claim is:

1. A car roof comprising side plates and roof sheets extending from side plate to side plate, each sheet having flat end portions bent down beyond the side plates and having the portion between said flat end portions offset near the longitudinal middle thereof to form a plain upper panel, a lower panel, and a substantially vertical web integral with said panels, which web decreases in depth to the vanishing point at the eaves, the lower panel having an upstanding angular side flange, the margin of the upper panel of one sheet resting on the angular side flange of the next sheet with the edge of said upper panel flush with the edge of said flange, and welds uniting the outer side edges of the respective upper panels of the sheet with the side edges of the upstanding side flanges of the lower panels throughout their length whereby the upper surfaces of the upper panels are left substantially free from obstructions.

2. A car roof comprising roof sheets offset to form plain upper panels, lower panels with upstanding angular side flanges and webs connecting said panels, said sheets being arranged with the side margins of the upper panels resting on the horizontal top portion of the angular flanges of the lower panels with the edges of said upper flanges substantially flush with the edges of said flanges, welds opposite and uniting said edges together throughout their length and other welds of added metal underneath said upper panels and uniting the upper panels to the vertical portions of said flanges, whereby the upper surfaces of the upper panels are left substantially free from obstructions.

3. A car roof comprising roof sheets offset to form plain upper panels, lower panels with upstanding angular side flanges and webs connecting said panels, said sheets being arranged with the side margins of the upper panels resting on the horizontal top portion of the angular flanges of the lower panels with the edges of said upper flanges substantially flush with the edges of said flanges, welds uniting said edges together and other welds of added metal underneath said upper panels and uniting the upper panels to the vertical portions of said flanges, whereby the upper surfaces of the upper panels are left substantially free from obstructions, the vertical portion of the flange of a sheet being spaced further from the web of its own sheet than from the web of the sheet next adjacent to said flange.

CHARLES DAVID BONSALE.