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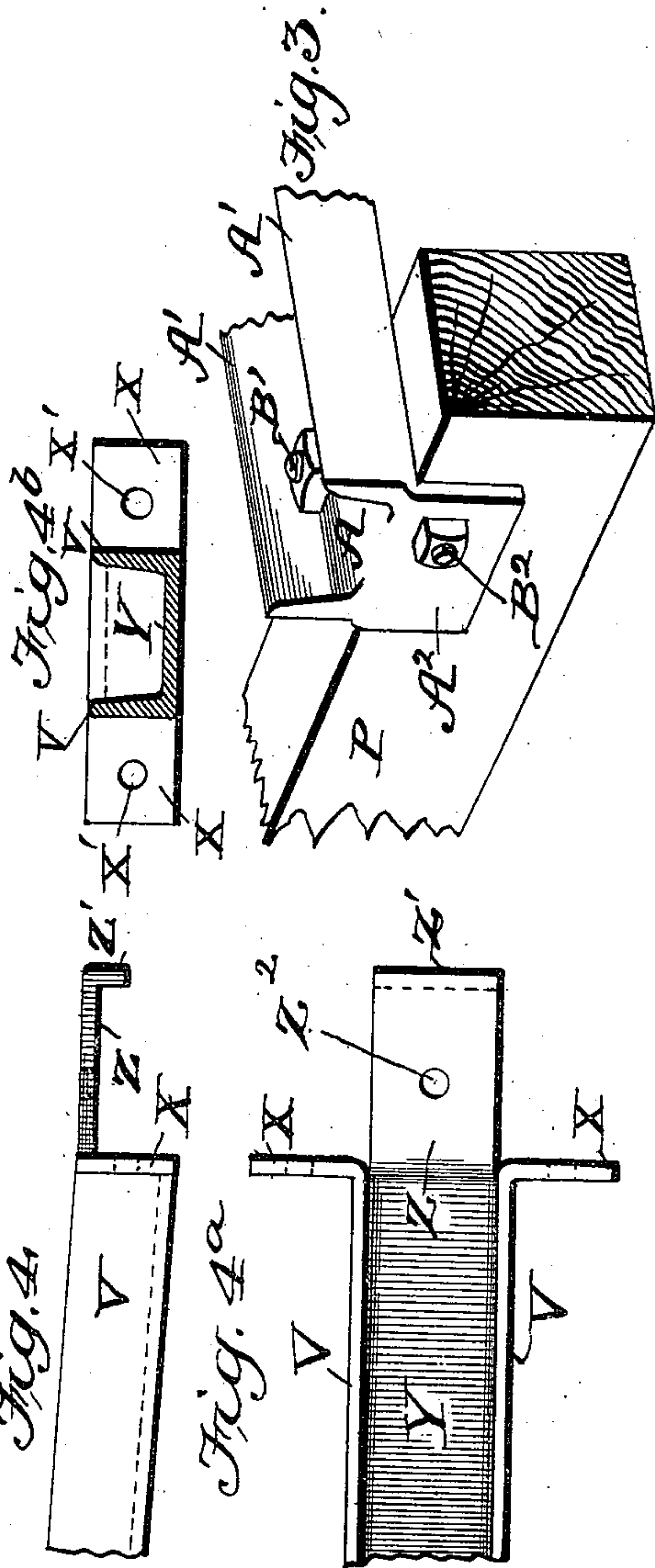
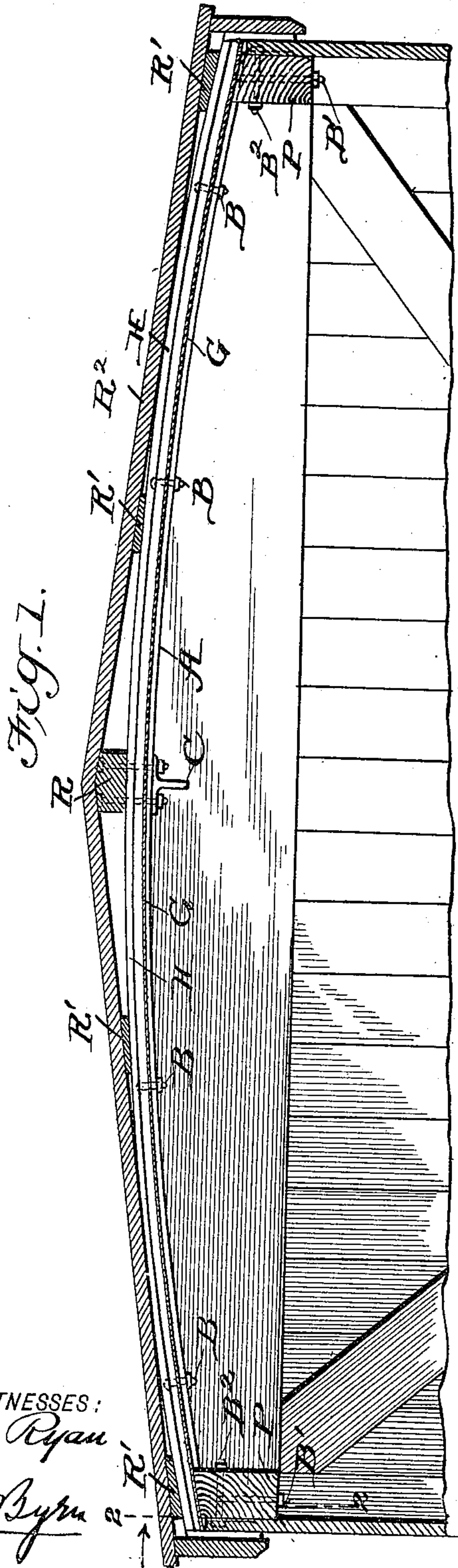
Patented Mar. 19, 1901.

C. D. PETTIS.
CAR ROOF.

(No Model.)

(Application filed Aug. 18, 1900.)

3 Sheets—Sheet 1.



WITNESSES:
Jos. A. Ryan
Edw. W. Ryan

INVENTOR
C. D. Pettis.
BY *Munn & Co.*

ATTORNEYS

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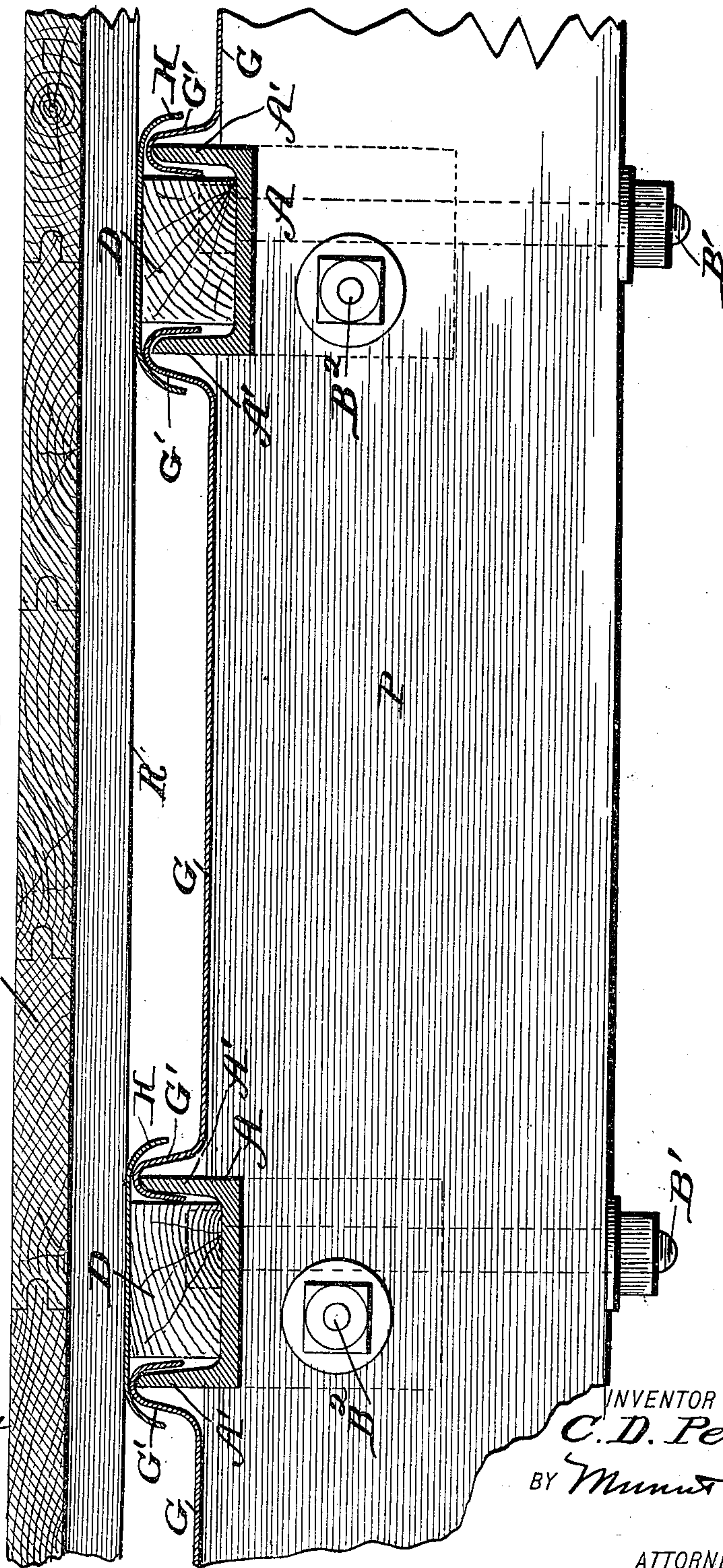
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3 Sheets—Sheet 2.

Fig. 2.



WITNESSES:
Jos. A. Ryan
Edw. W. Byrnes

INVENTOR
C. D. Pettis.
BY *Munn & Co.*

ATTORNEYS

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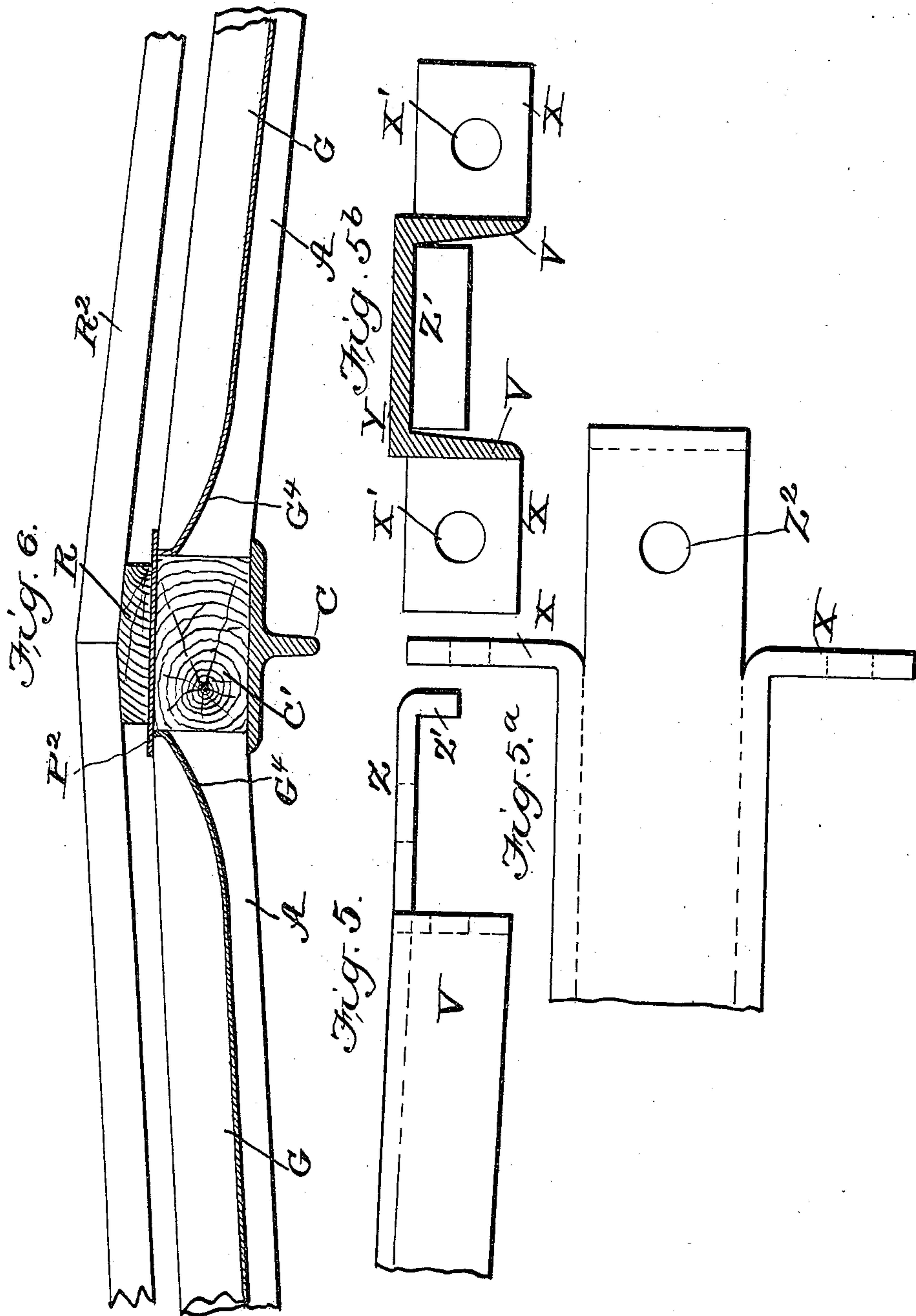
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3 Sheets—Sheet 3.



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Jos. A. Ryan
Edw. W. Byrnes

INVENTOR

C. D. Pettis.

BY *Munn & Co.*

ATTORNEYS

UNITED STATES PATENT OFFICE.

CLIFTON D. PETTIS, OF CHICAGO, ILLINOIS.

CAR-ROOF.

SPECIFICATION forming part of Letters Patent No. 670,294, dated March 19, 1901.

Application filed August 18, 1900. Serial No. 27,286. (No model.)

To all whom it may concern:

Be it known that I, CLIFTON DANCY PETTIS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful
5 Improvement in Car-Roofs, of which the following is a specification.

The invention relates to an improved car-roof in which a commercial-shaped channel-iron is utilized in place of the regular wooden
10 carline to afford greater strength, more head room in the car, and to make a form of roof wherein the flanges of the said channel are used in securing the edges of sheets of galvanized iron which are used to form the wa-
15 ter-shedding feature of the roof.

The invention consists in the peculiar construction and arrangement of parts hereinafter shown and described, reference being had to the accompanying drawings, in which—

20 Figure 1 is a vertical cross-section of the roof of a car embodying my invention. Fig. 2 is an enlarged section on line 2 2 of Fig. 1. Fig. 3 is an enlarged detail in perspective. Figs. 4, 4^a, and 4^b are respectively a side view,
25 a plan, and a cross-section of a modification. Figs. 5, 5^a, and 5^b are similar views of another modification, and Fig. 6 is a modification of the ridge-pole connections.

In lieu of the old-style carlines, generally
30 of wood, a U-shaped channel-iron A is employed, which is bent longitudinally in the form of an arc, as shown in Fig. 1, or, if desired, in the shape of an obtuse angle in the middle, in order to shed the water from the
35 roof. The side flanges A' are cut off at the extreme ends of channel-iron A for a sufficient distance to permit turning down the base of the channel-iron to form a shoulder A², Fig. 3, overlapping the plate P of the car, the said
40 channel-iron being secured to the plate by a vertical bolt B' and a horizontal bolt B². The flanges A' of the channel-iron A extend upwardly not only to form or allow a flat bot-
45 tom to bear against the plates of the car, but also to serve in securing the metal sheets G, which are placed between the channel-irons with edges bent in hook form longitudinally.

G' indicates the hooks of the metal sheet
50 engaging the flanges of the channel-irons, as stated. Strips of wood or other suitable material D are placed in the grooves of the channel-irons and are secured to the same by bolts B,

with heads let in flush. The wood strips D project slightly above the line of sheet-iron hooks G', and surmounting said strips D there is a
55 gutter-shaped metal strip H and secured to D with nails or screws. The edges of the strip H are turned downward in order to allow any water to pass off onto the sheets G and thence to the side of the car. Longitudinal
60 purlins R' are placed crosswise on top of the strips D at points shown or as may be desired, and to which are secured the transverse roofing-boards R². At the middle of the car-roof and extending longitudinally
65 and under the channels is placed a T-iron C, Fig. 1, which is bolted or secured as may be desired to said channel-irons and also to the ridge-pole R, said ridge-pole further serving
70 as a base to secure the roofing-boards R².

The advantages of my invention consist in producing a novel form of carline from which great strength is obtained, requiring less space, and thus affording more clear space on
75 the inside of a car. By the methods described of securing the channel-iron to the plate the necessity of strap-bolts or transverse rods is done away with, and at the same time there is produced a superior form of construction
80 for preventing the car from spreading at the plates. Another important feature is the manner in which the metal sheets are held in place, as they are hooked to the channel-iron
85 flanges with sufficient play to accommodate the torsion of the car, and at the same time the sheets remain in place and do not become dislodged. The strips D being placed in the
90 grooves of the irons prevent the roof shifting, as frequently occurs with car-roofs. The surmounting strip of galvanized iron or metal H prevents water from getting in the channel; but if this should occur it would readily run off, as will be seen, and therefore the strip H could be omitted entirely, if desired.

It is not intended to limit the manner of
95 securing the channel-irons to the construction so far described, as the form shown in Figs. 4, 4^a, and 4^b may be used. In this form the flanges V are turned out at right angles at X and bolted to the plate, and the web of the
100 channel is bent upward at the end, as shown by Z, with the end of Z turned down at Z'. This overlaps the top of the plate and is secured to the same by a vertical bolt passing through

hole Z^2 , X' representing the holes for bolts passing through flanges X and which secure the channel-iron to the plate horizontally. Y indicates the web or base of the channel-iron, 5 which base is turned upward at the ends and then bent, as previously described. This manner of shaping the ends of the channel-iron is desirable in the event a double-board or other form of roof is desired. In this construction the same strips D and purlins R' 10 may be used as shown in Fig. 2.

It will be understood that instead of making the sheet G continuous from side to side, as shown in Fig. 1, it may be in two plates or 15 pieces, as seen in Fig. 6, in which the two sheets G are bent upward at the middle to the top of piece C' , which is supported upon and secured to the T -iron or other strip C . The strip C' is covered by a metal sheet P^2 , 20 and upon this is laid the ridge-pole R .

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A car-roof comprising **U**-shaped channel-irons having a middle web portion and a 25 vertical standing flange on each side, a wooden strip laid in the groove of the channel-iron, sheets of metal arranged between the channel-irons and having their edges bent first up 30 and then over the standing flanges of the

channel-iron, and then down between said flanges and the wooden filling-strips to lock the two adjacent channel-irons together with a hooked connection so as to form a braced 35 construction and a water-tight joint, longitudinal purlins laid crosswise on the wooden strips, and roof-boards laid upon the purlins substantially as described.

2. A car-roof comprising **U**-shaped channel-irons having a middle web portion and a 40 vertical standing flange on each side, a wooden strip laid in the groove of the channel-iron, sheets of metal arranged between the channel-irons and having their edges bent first up and then over the standing flanges of the 45 channel-iron, and then down between said flanges and the wooden filling-strip to lock the two adjacent channel-irons together with a hooked connection to form a braced construction and a water-tight joint, an inverted- 50 trough-shaped covering-strip H extending over the filling-strip, channel-iron, and hook-shaped edges of the metal sheets, longitudinal purlins laid crosswise on the same, and roof-boards laid on the purlins substantially as de- 55 scribed.

CLIFTON D. PETTIS.

Witnesses:

H. M. LYON,
C. L. PETTIS.