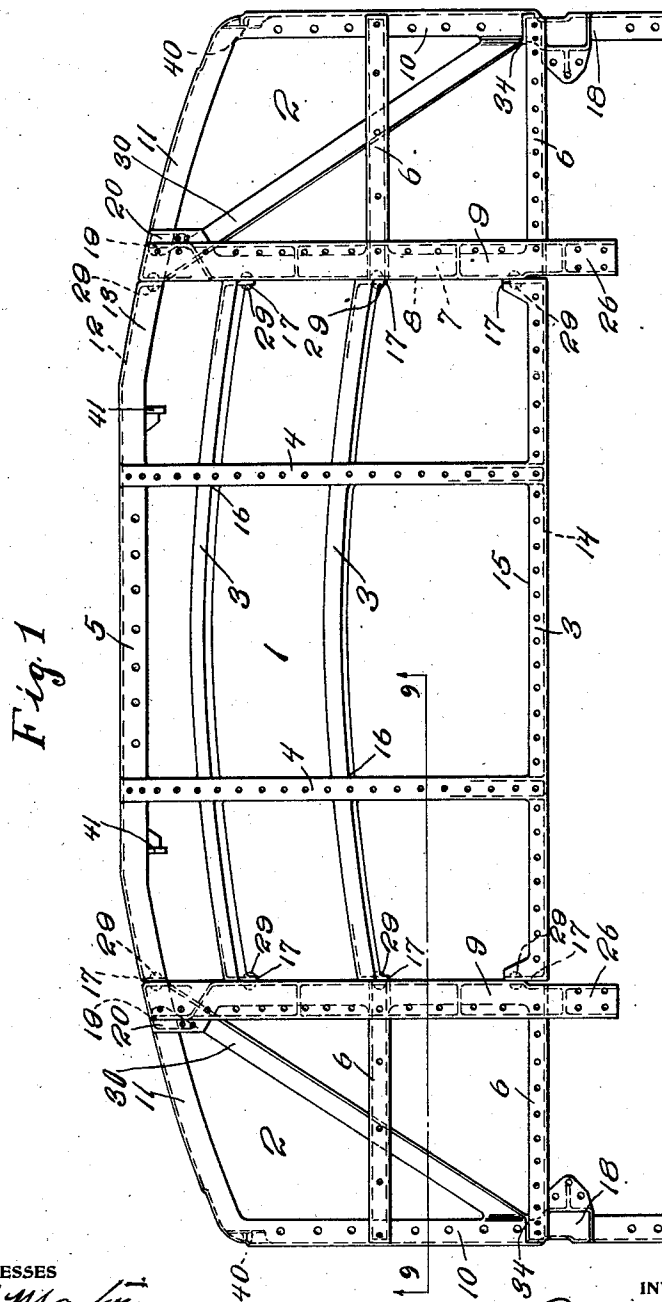


1,023,031.

A. E. OSTRANDER.
CAST PLATFORM HOOD.
APPLICATION FILED SEPT. 15, 1911.

Patented Apr. 9, 1912.

6 SHEETS—SHEET 1.



WITNESSES

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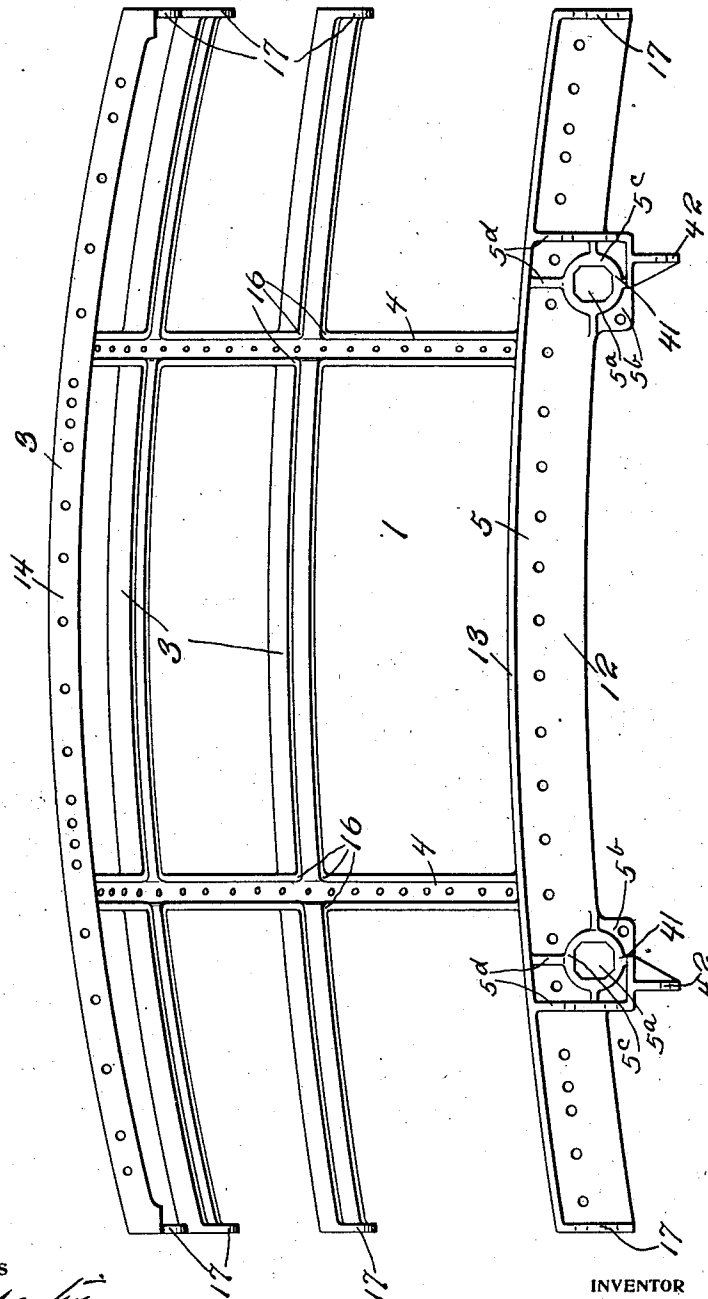
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Fig. 3



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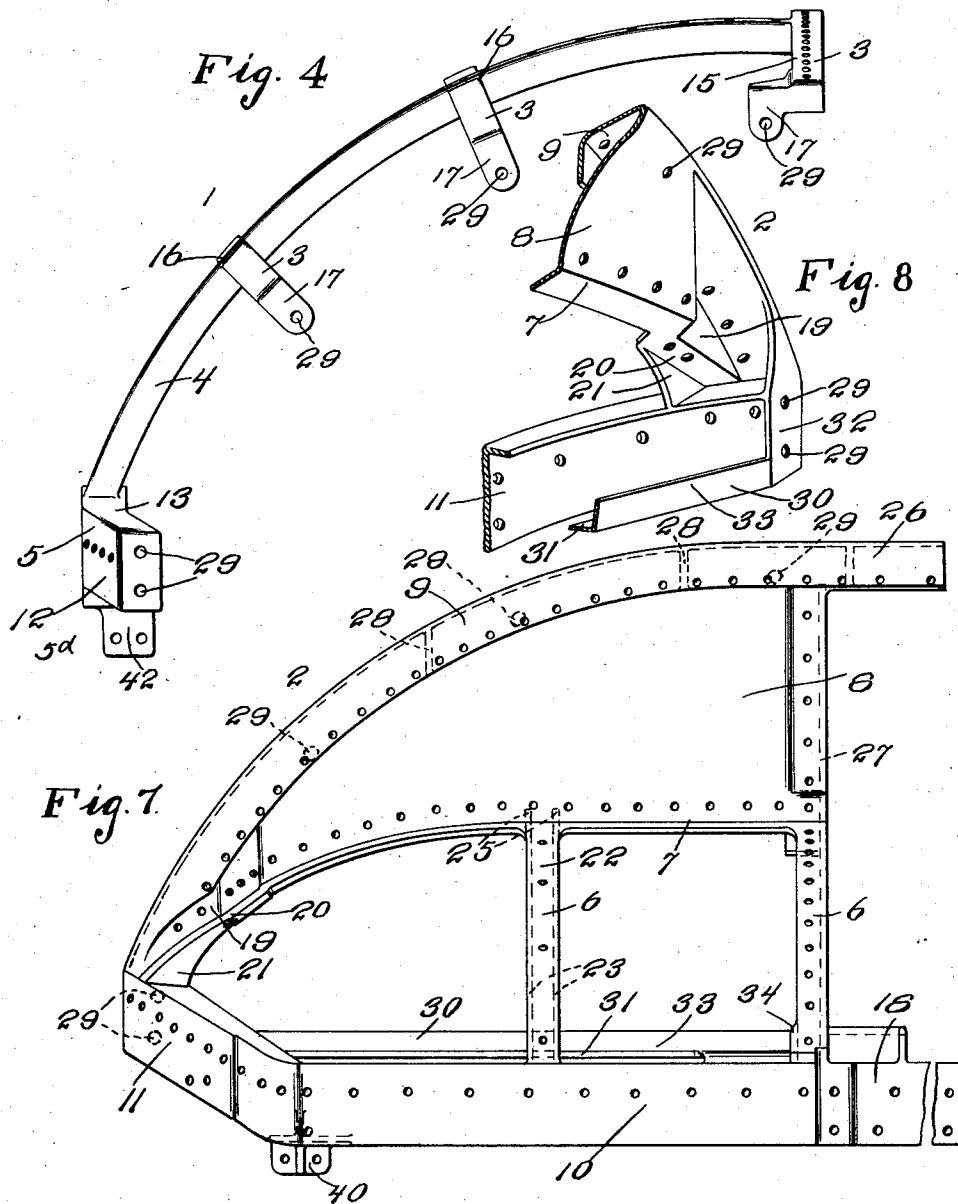
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6 SHEETS—SHEET 4.



WITNESSES
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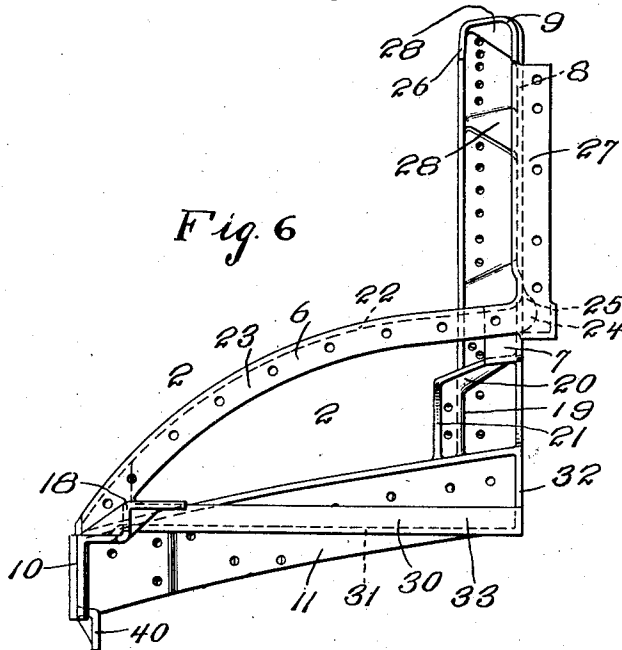
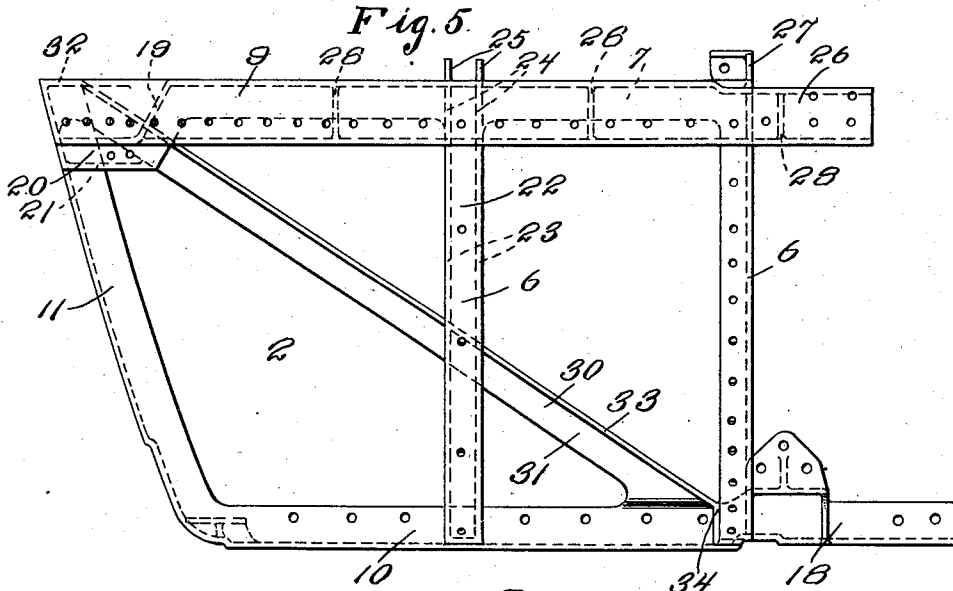
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1,023,031..

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6 SHEETS—SHEET 5.



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6 SHEETS-SHEET 6.

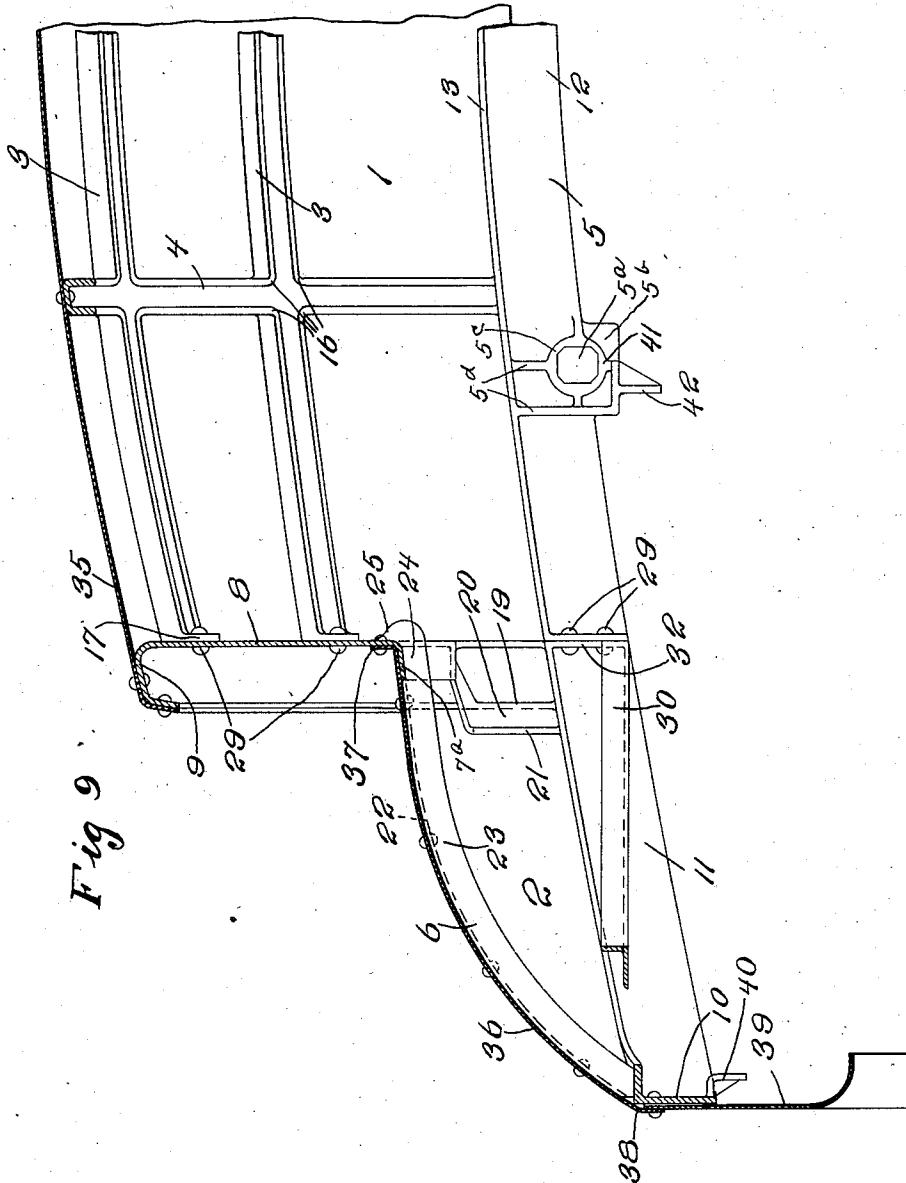


Fig 9

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UNITED STATES PATENT OFFICE.

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CAST PLATFORM-HOOD.

1,023,031.

Specification of Letters Patent.

Patented Apr. 9, 1912.

Application filed September 15, 1911. Serial No. 649,589.

To all whom it may concern:

Be it known that I, ALLEN E. OSTRANDER, residing at Ridgewood, Bergen county, New Jersey, and being a citizen of the United States, have invented certain new and useful Improvements in Cast Platform-Hoods, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and to use the same, reference being had to the accompanying drawings, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

In said drawings: Figure 1 is a top plan view of the parts of the frame work of a platform hood constructed in accordance with this invention. Fig. 2 is an enlarged top plan view of the central section thereof. Figs. 3 and 4 are respectively rear and side elevational views of said central section. Fig. 5 is an enlarged top plan view of one of the side sections illustrated in Fig. 1. Figs. 6 and 7 are respectively rear and side elevational views of the section shown in Fig. 5. Fig. 8 is an enlarged fragmentary perspective view taken from within one of the side sections and illustrating the details of connection between the end plate, deck plate and deck sill, and Fig. 9 is an enlarged transverse sectional view through substantially one-half of a car platform roof and illustrating the manner of connecting the upper deck and lower deck roof plates to a frame work embodying the features of this invention.

Heretofore cars and particularly so-called wood passenger cars have been constructed with heavy underframes and in recent years it has been customary to use steel underframes with strong steel platforms, while the platform hoods of such cars have been generally formed of light wood members or light structural shapes.

With the increase in length and consequent weight of modern steel passenger cars the underframes and platform structures have been increased in weight and strength but the platform hoods have usually been constructed as described. The result has been that, in the event of collisions, the platforms and underframes have generally resisted the collusive strains and the plat-

form hoods have been crushed. To overcome this difficulty the present design of platform hood was perfected.

It is obvious that the invention is an article of manufacture which may be cast and marketed independently of the cars to which it may be applied and that the hood may be applied to old cars as well as to new cars in process of construction.

Where platform hoods have been manufactured largely of commercially rolled sections great difficulty has been experienced and heavy expense incurred in efforts to form the numerous sections of such material to the irregular curves inherent to such a structure and to properly fit and connect the complex joints thereof.

One object of this invention is to simplify the structure and lessen the cost of manufacture by reducing the labor incident to assembling and to otherwise overcome the objections noted.

It is not desired that the invention be restricted to the exact form and proportions illustrated in the drawings, for numerous modifications may be resorted to within the scope of the claims forming part hereof, nor is it intended that the invention be restricted to the use of a plurality of parts, such as the central and side sections illustrated as said parts may be cast integral, if desired. They are however preferably formed of independent sections but this is done only to afford simplicity in the casting, it being considered that the additional difficulty of making a single casting would be greater than the simple matter of connecting the formed sections shown.

The form illustrated in the drawings comprises a central section 1 and side sections 2—2, the section 1 comprising the hood carlines 3—3, purlins 4—4, and the central portion of the end plate 5; and the sections 2—2 comprising the lower deck carlines 6—6, deck sills 7—7, deck sill panels 8—8, deck plates 9—9, side plates 10—10 and end plate sections 11—11, the end plate sections 11 forming continuations of the end plate 5 of the section 1 and merging into the forward ends of the side plates 10.

The end plate section 5 of the central section 1 is angle shaped in cross section and is disposed with one of its flanges 12 depending for forming an apron adapted for attachment of end plates of the platform wall structure, not illustrated, and with its other

flange as 13 turned rearwardly from the upper edge of said first flange. The rear end carline 3 likewise comprises an angle section, said section being disposed with
 5 a depending flange 14 adapted to be fixed to the end face of the car body structure, and with a forwardly projecting flange 15 at the upper edge of the flange 14.

The purlins 4 and the intermediate carlines 3 comprise each preferably an inverted channel section, the depending flanges of said channels being intermitted and merged into each other at the points of intersection as at 16—16 (Fig. 3). Each of the opposite
 10 ends of the carlines and of the end plate section 5 are formed with a flange as 17, (Fig. 3) all of said flanges, on the respective ends, being alined and formed preferably with rivet holes adapted for attachment
 15 thereto of the side sections 2.

The side sections 2—2 being identical in form and construction, one only need be described in detail and the description thereof will apply equally to both: The end plate
 25 section 11 and the side plate 10, comprise angle sections similar to the section 5 of the central section 1, being formed with horizontal and vertical flanges disposed substantially as described for said plate 5. The
 30 rear end of the side plate 10, as at 18, is extended beyond the plane of the rear carline 6 and said extended portion may be formed in any suitable manner best adapted for attachment to the car body structure.

The deck sill 7, the deck sill panel 8, and the deck plate 9 are substantially of continuous plate formed with a vertically disposed portion comprising the deck sill panel, an out-turned flange 7^a (Fig. 9) along the
 40 bottom edge of said plate constituting the deck sill, and an outwardly and downwardly turned flange along the upper edge of said plate comprising the deck plate. The deck plate 9 extends from a point spaced somewhat above the rear end of the deck sill, in
 45 an appropriate curve, forwardly and downwardly, and merges into the forward edge of the upper flange of the end plate 11 as best disclosed in Figs. 7 and 8. The upper
 50 edge of the deck sill panel obviously follows the curvature of the deck plate and its forward portion, adjacent the point of juncture between the deck plate and end plate, is offset as at 19, so as to bring its outer face approximately flush with the outer face of the
 55 depending flange 9^a of the deck plate for facilitating the attachment of the roof plates hereinafter referred to. The contiguous portion of the deck sill is likewise offset as at 20, for the same purpose, and a reinforcing fillet 21 connects the outer edge of the
 60 deck sill with the top flange of the end plate where said deck sill inclines upwardly from said flange, the deck sill being given the customary curve present in such a member, for

elevating its greater portion above the horizontal plane of the side plate.

The rear lower deck carline 6 comprises an angle section similar to the rear carline 3 of the upper deck, and is arranged to be
 70 fixed to adjacent portions of the car body. The horizontal flange of said carline is formed as a continuation of the flange comprising the deck sill 7 and is curved downwardly and merges into the top flange of
 75 the side plate 10. The intermediate lower deck carline 6 is channel shaped in cross section, having its web 22 disposed as a continuation of the flange forming the deck sill 7, and merging into the top flange of the
 80 side plate 10. The flanges 23—23 of the intermediate carline 6 are turned downwardly for presenting a smooth upper surface for the attachment of the roof plate, said down-turned flanges extending at their
 85 upper ends, across the under surface of the deck sill 7, as at 24, (Fig. 9) and being formed with upwardly extending portions 25 merging into the inside face of the deck sill. The lower ends of the flanges 23 merge
 90 into the upper face of the top flange of the side plate 10. The rear end, as 26, of the deck plate 9 is extended beyond the vertical plane of the rear end of the deck sill 7 for convenient attachment to parts of the car
 95 body. The rear vertical edge of the deck sill panel 8 may be given any appropriate shape or may be formed with suitable flanges as 27 adapted for connection to the car body. Suitable angle brackets 28 are
 100 disposed in the space formed by the overhanging portion of the deck plate 9 for strengthening said plate.

Extending diagonally from the point of juncture of the side plate 10 with the rear
 105 lower deck carline 6 to the juncture of the end plate section 11 with the deck plate 9 and deck sill 7, beneath the intermediate carline 6, is a diagonal brace 30, said brace being angle shape in cross section and being
 110 disposed with a horizontal flange 31 merging into the inner edge of the top flange of side plate 10, at one end, and into the rear face of the down-turned flange of the end plate section 11 and into the adjacent face
 115 of an end flange 32, at its other end as best seen by dotted lines in Fig. 5; and with a vertically disposed flange 33 upstanding from the inner edge of said horizontal flange and merging into the lower end of the rear
 120 lower deck carline 6 at one of its ends, as at 34, and into the vertical inner edge of the flange 32 at its other end. The end flange 32 is extended above the upper surface of the end plate section 11 so as to form a
 125 bracket for reinforcing the inside edge of the adjacent portion of the deck plate as shown in Fig. 8. The ends of the carlines 3, comprising flanges 17, which abut against the inside face of the deck sill panel, where
 130

said panel merges into the deck plate, and are fixed rigidly thereto by heavy rivets as at 29. (See Fig. 1.)

The upper deck roof plate 35 comprising a rolled sheet is fixed, preferably, to the upper surfaces of the purlins 4 and the opposite side edges thereof extend over the top surfaces of the deck plates 9 and downwardly, so as to cover the depending flanges of said plates and are securely riveted to the purlins and to the deck plates, so as to form an additional positive connection between the central section 1 and side sections 2. The lower deck roof plate 36 is fixed to the upper surface of the carlines 6 and is formed with an upstanding flange 37 along its inner edge fixed by a water-tight joint, to the outer surface of the deck sill 7. The lower edge of the plate 36 overhangs a portion of the depending flange of the plate 10 as at 38 and laps the upper edge of the platform door header 39, and is secured thereto in any suitable manner, preferably by rivets, extending through said header and through the side plate.

In a cast structure as herein set forth, it is obvious that various features may be formed as integral parts thereof, for instance the parts 40—40 and 41—41 designed for coöperation with or attachment of various portions or elements of the car construction or equipment may be formed and herein is found a particularly valuable quality present in cast construction. The parts 40—40 illustrated are adapted for attachment to the platform corner posts. The parts 41—41 are designed to receive the spring piston mechanisms of the vestibule diaphragm and they comprise suitable bearings as 5^a formed through a widened portion 5^b of the depending flange 12 of the end plate 5, said bearings being elongated by surrounding rearwardly projecting flanges 5^c, and said flanges being reinforced by suitable ribs as 5^d, all formed integral with the flanges of the end plate. An extension, as 42, may be formed upon one of the ribs 5^d, if desired, being adapted to be attached to the upper end of the diaphragm post.

What I claim is:—

1. A cast metal platform hood for railway cars comprising a deck sill panel having integrally formed deck plate.
2. A cast metal platform hood for railway cars comprising a deck sill panel having integrally formed deck plate and lower deck carlines.
3. A cast metal platform hood for railway cars comprising a deck sill and panel having integrally formed end and side plates.
4. A cast metal platform hood for railway cars comprising a deck sill panel having integrally formed end and side plates, and an integrally formed deck plate.

5. In a platform hood for railway cars, an integrally cast member comprising a plurality of hood carlines and channel shaped hood purlins.

6. In a platform hood, a unitary casting comprising a parti-rectangular frame comprising side plate and end plate section and deck sill and having a deck sill panel upstanding from said deck sill.

7. In a platform hood, a unitary member comprising a parti-rectangular frame forming side plate and end plate section and deck sill, and having a deck sill panel upstanding from said deck sill, and a cross member connecting said deck sill with said side plate intermediate the ends of said sill and plate forming a lower deck carline.

8. In a platform hood, a unitary member comprising a parti-rectangular frame forming side and end plates and deck sill and having a diagonal brace formed integral therewith.

9. In a cast platform hood, a unitary member comprising a parti-rectangular frame forming a lower deck section of said hood, said frame having an integrally formed deck sill panel and deck plate.

10. In a cast platform hood, a unitary member comprising a parti-rectangular frame forming a lower deck section of said hood, said frame having an integrally formed deck sill panel and deck plate, and an integrally formed lower deck carline.

11. In a platform hood, a unitary member comprising a parti-rectangular frame forming a lower deck section of said hood, said frame having an integrally formed diagonal brace, and a lower deck carline above said brace.

12. In a platform hood, a unitary member comprising a parti-rectangular frame forming side and end plates and deck sill, and having a diagonal brace extending from the juncture of said deck sill and end plate to said side plate.

13. In a platform hood, a unitary member comprising a lower deck section of said hood, said member having an integrally formed diagonal brace.

14. In a platform hood, a unitary casting comprising a frame, one side of said frame forming a side plate of said hood, said side plate extending beyond said frame and being adapted to be fixed to parts of the car body.

15. In a platform hood, a unitary casting comprising a frame forming a lower deck section of said hood, said frame having an integrally formed deck sill panel and deck plate, and parts of said frame being adapted to be fixed to parts of the car body.

16. In a platform hood, a unitary casting comprising a frame forming a lower deck section of said hood, said frame having an integrally formed deck sill and deck plate,

said deck plate being extended beyond the vertical plane of the inner end of said deck sill and being adapted to be fixed to parts of the car body.

5 17. In a platform hood, a unitary casting comprising a frame forming a lower deck section of said hood, said frame having an integrally formed deck sill panel and deck plate, said deck sill panel being adapted to
10 be fixed to parts of the car body.

18. In a platform hood, a single casting comprising a frame, opposite sides of said frame forming a side plate and a deck sill of said hood, and a deck plate formed integral with said frame, said deck plate and side plate being extended beyond said frame and being adapted to be fixed to parts of the car body.

19. In a cast platform hood, the combination with deck plates and connected side plates, of an integrally cast member comprising a plurality of hood carlines fixed to said deck plates.

20. In a platform hood, the combination comprising an integrally cast member forming hood carlines and hood purlins, said members being provided with merging flanges.

21. In a platform hood, the combination comprising an integrally cast member forming hood carlines and hood purlins and end plate, said members being provided with merging flanges.

22. In a platform hood, the combination comprising hood carlines, end plate, and means extending transversely of said carlines for connecting said carlines together and connecting said carlines to said end plate, and all of said parts comprising a
40 single cast structure.

23. In a platform hood, the combination with deck plates, of a cast member comprising a substantially rectangular frame having lateral projections cast integral with
45 said deck plates.

24. In a platform hood, the combination in a single casting, of deck plates, and an integrally cast member comprising a substantially rectangular frame forming hood carlines, said carlines, projecting beyond said frame and being fixed to said deck plates.
50

25. In a platform hood, the combination comprising cast deck plates and side plates of an integrally cast member comprising a

substantially rectangular frame forming 55 hood carlines and an end plate, said carlines and plate projecting beyond said frame and being fixed to said deck plates.

26. In a platform hood, the combination comprising a single casting forming hood 60 carlines and hood purlins, said carlines and purlins being of inverted U-shape in cross section.

27. In a platform hood, the combination with a single casting forming a deck plate 65 and lower deck carlines, of an independently cast member comprising a plurality of hood carlines fixed to said deck plate.

28. In a platform hood, the combination comprising an integrally cast member forming hood carlines and hood purlins, said member being formed with parts adapted to support parts of the vestibule diaphragm.

29. In a platform hood, the combination comprising an integrally cast member forming hood carlines and hood purlins, said member being formed with apertures adapted to receive the vestibule diaphragm pistons.

30. In a platform hood, the combination comprising an integrally cast member forming hood carlines and hood purlins and end plate, said end plate being formed with apertures adapted to receive the vestibule diaphragm pistons. 85

31. In a platform hood, the combination comprising an integrally cast member forming hood carlines and hood purlins and end plate, said end plate being formed with elongated reinforced apertures adapted to receive the vestibule diaphragm pistons. 90

32. In a platform hood, an end plate formed with an aperture, integrally formed reinforcing flanges adjacent said aperture comprising a bearing for the vestibule diaphragm piston. 95

33. In a platform hood, an integrally formed member comprising a hood carline and an end plate, said member being formed with apertures and said apertures being formed into bearings for the vestibule diaphragm pistons. 100

In witness whereof I have hereunto set my hand in the presence of two witnesses.

ALLEN E. OSTRANDER.

Witnesses:

H. S. WHITFORD,
L. V. JOYCE.