

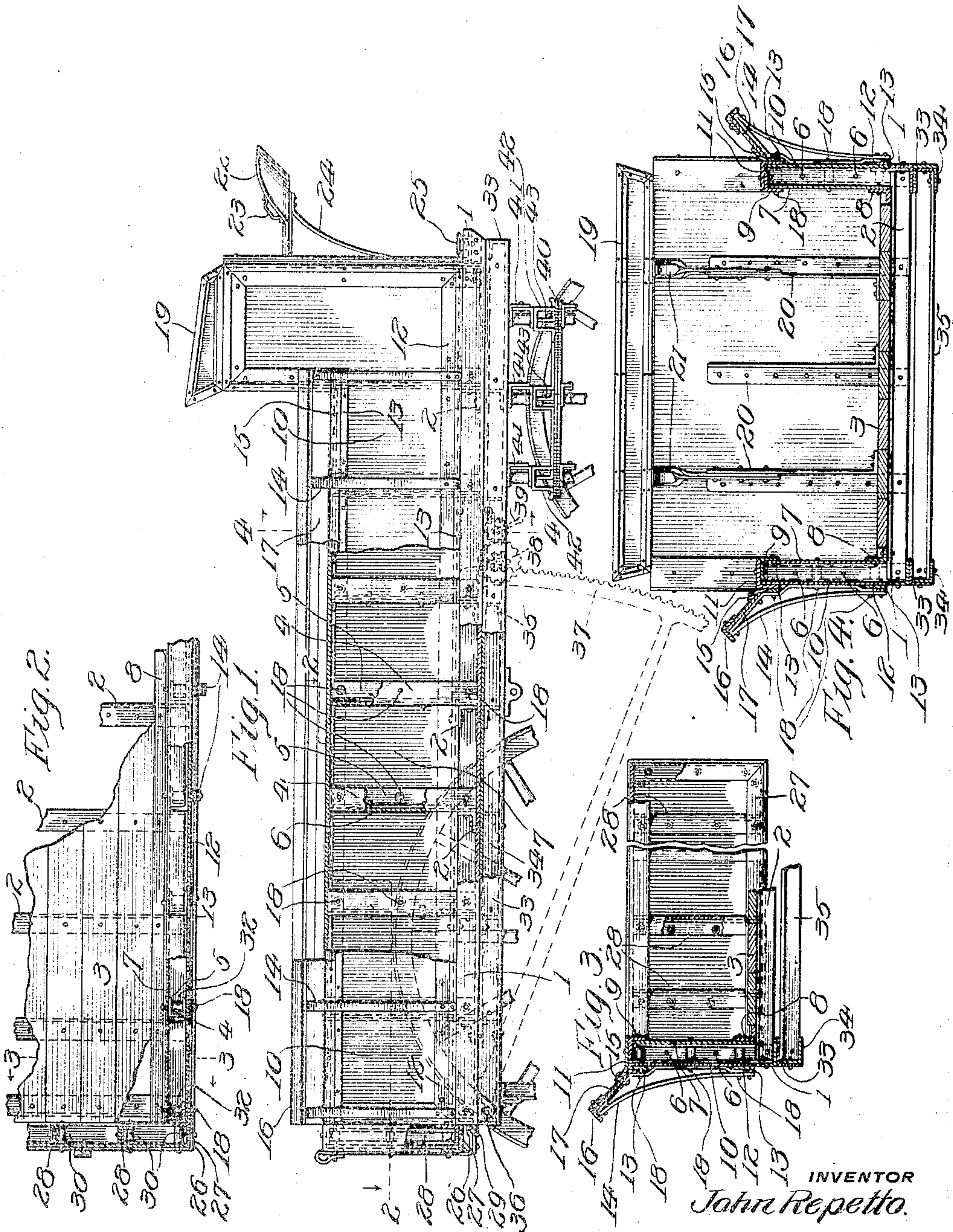
J. REPETTO.
VEHICLE.

APPLICATION FILED APR. 29, 1907.

914,880.

Patented Mar. 9, 1909.

2 SHEETS—SHEET 1.



WITNESSES

W. G. Hartman.

A. J. Gardner.

BY

John Repetto.

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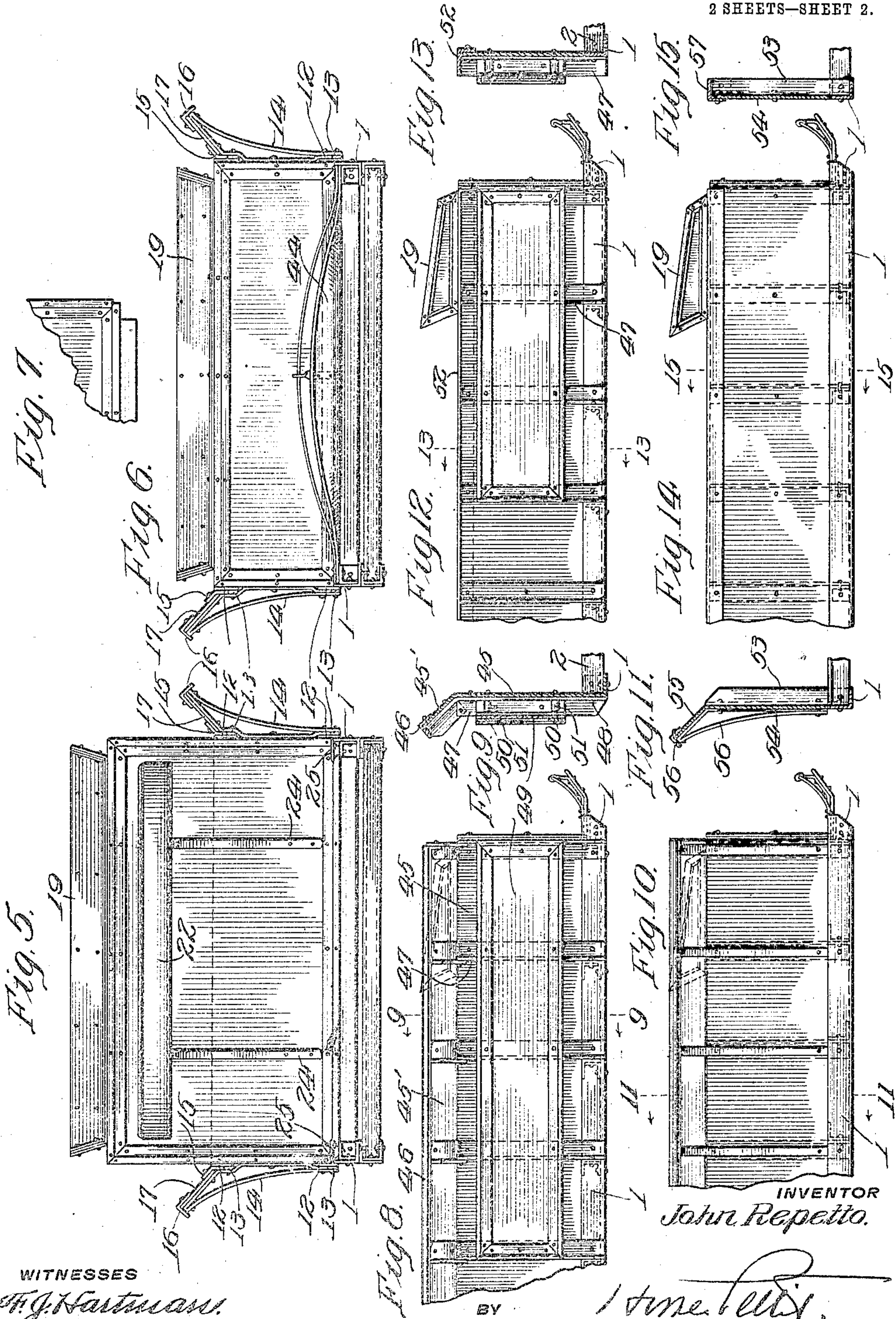
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WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

JOHN REPETTO, OF PHILADELPHIA, PENNSYLVANIA.

VEHICLE.

No. 914,830.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed April 29, 1907. Serial No. 371,015.

To all whom it may concern:

Be it known that I, JOHN REPETTO, a citizen of the United States, and a resident of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Vehicles, of which the following is a full, clear, and complete disclosure.

The object of my invention is to provide a form of construction whereby vehicle bodies of various shapes may be built entirely from sheet metal, in combination with an ordinary form of angle-iron.

With this object in view, my invention consists in the novel combination arrangement and construction of parts hereinafter described, and more particularly pointed out in the claims and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a vehicle constructed in accordance with this invention, parts of the same being broken away to show the frame-work; Fig. 2, a fragmentary top plan view on line 2, 2 of Fig. 1; Fig. 3, a fragmentary transverse, vertical section on line 3—3 of Fig. 2; Fig. 4, a transverse vertical section on line 4, 4 of Fig. 1; Fig. 5, a front elevation; Fig. 6, a front elevation of a modified form of my invention; Fig. 7, a front elevation of a fragmentary corner of the vehicle body; Fig. 8, a side elevation of a modified form of body; Fig. 9, a vertical transverse section on line 9, 9 of Fig. 8; Fig. 10, the side elevation of a second modification of the body; Fig. 11, a transverse vertical section on line 11, 11 of Fig. 10; Fig. 12, a side elevation of a third modification of the body; Fig. 13, a transverse vertical section on line 13, 13 of Fig. 12; Fig. 14, a side elevation of a fourth modification of the body; and Fig. 15, a vertical transverse section of the same on line 15, 15 of Fig. 14.

Referring to Figs. 1, 2, 3, 4, and 5 of the drawings, the frame of the body comprises two longitudinal beams, 1 each extending the full length of the body, and projecting from the forward end thereof. These beams are formed of L shaped angle-irons, and extending between these beams and secured into the angles thereof by suitable bolts or rivets, are the spaced cross braces 2, 2, etc., constituting the support of the floor, 3, of the body. The floor may be formed of a single sheet of metal or, if preferred, of strips of wood in the usual manner. Secured in the angles between the longitudinal beams and the cross braces are vertical side braces,

which are each formed from two pieces of angle-iron 4 and 5, overlapping upon one side, and secured together by bolts 6, to form a U shaped channel beam, having the sides of the channel extending longitudinally of the wagon and the two outermost braces opening toward each other and having the inner sides of their lower ends cut away to receive the respective ends of the floor braces, one side of each end extending over the outer side of its adjacent floor brace, to which it is secured. The angle-irons forming the inner halves of these vertical braces are made slightly shorter than the angle-irons forming the outer halves, the differences in the lengths appearing at the tops of the braces, for the purpose to be hereinafter explained.

The inner covering for each side is formed of an oblong piece of sheet metal 7 having angle-irons 8 and 9 secured to the upper and lower edges thereof, the horizontal webs of the upper angle-irons being slotted transversely to embrace the upper edges of the vertical transverse webs of the side braces. These horizontal webs or flanges fit over and rest upon the ends of the shortened inner halves of the vertical side braces, the top surface of the horizontal flanges being flush with the top edge of the vertical webs. The outer surface of each side is formed of an oblong plate of sheet metal 10 provided with an angle-iron 11, secured to its upper edge and forming a horizontal flange extending over the inner covering and the upper edges of the side braces. The lower edge of the said outer side plate 10 rests upon the upper edge of the longitudinal side beam 1, and their outer surfaces are flush. A strip of metal 12 of substantially the same width as the angle-iron 11 is secured to the outside lower margin of each side plate, and outside of this strip and along the lower edge thereof is a narrower strip 13. These strips are upwardly extended along the vertical edges of the side, to meet the web of the angle-iron extending along the top of the side, and the narrower strip is extended over this web along its lower edge. This construction gives an ornamental appearance to the sides, and forms ledges for the support of the brackets 14, and the oblique angle-iron 15, which supports the oblique side extension 17. This extension is composed of a central oblong sheet of metal, or of wood, with an L-shaped angle-iron 16 forming a finish for the upper edge

thereof, the angle-irons being riveted to the oblong plate and to the said brackets, and the said extension and brackets being fastened to the side by bolts or rivets 18, which

5 also secure the inner and outer coverings of the sides to the said vertical side braces.

The two forward vertical side braces upon each side of the vehicle are extended upwardly to form the supports for an elevated seat 19, and the inner and outer side coverings are extended upward accordingly. Extending over the front of the body and fastened to the foremost side braces is a covering of sheet metal, with a beaded strip along its edge, similar in construction to the outer coverings of the sides but having notched lower corners resting upon and in between the extended side beams 1. A fragmentary elevation of one of these corners is shown in Fig. 7. The inner side of this front is braced by vertically extending spaced angle-irons 20. The webs of the lower ends of the said angle-irons are divided, and one web of each end is turned horizontally, and rests upon and is secured to the floor of the vehicle, and the other web passes vertically through the floor and is secured thereto. Brackets 21 are secured to the upper ends of the angle-irons, and extend up against the under part of the seat to support the same. A foot rest 22 having handles 23 attached to the sides thereof is fastened to the front of the vehicle upon suitable brackets 24, and a step 25 is fastened upon each side of the wagon to the extensions of the side beam 1, forming means for mounting to the seat.

The rear end of the vehicle is formed in a manner similar to that of the sides, and comprises over-lapping angle-irons 26 and 27, forming a marginal frame of channel shape opening inwardly, the side webs of the angle-irons being mitered to form the rectangular corners of the frame, and the outer periphery of the frame, being formed of a single piece of angle-iron. Extending between the top and bottom members of the frame and secured within the channels thereof are vertical braces 28, formed of over-lapping angle-irons. A sheet of plate metal is inserted between the outer vertical web of the outside frame and the vertical cross pieces to form a covering, and the whole structure is hinged at its lower edge to the body of the wagon upon the hinges 29.

55 In riveting or bolting together the various parts of the vehicle, spacing sleeves, such as are shown in the end of the vehicle at 30 and the sides of the vehicle at 32, are used to keep the webs of the angle-irons apart at proper distances.

The whole body of the vehicle is supported upon a separate horizontal frame composed of longitudinal side beams, formed of two over-lapping angle-irons 33 and 34, riveted together in the form of U shaped channel

beams, and transverse beams 35 formed of angle-irons arranged with horizontal webs secured alternately to the upper and lower webs of the side beams. The rear end of the vehicle is hinged upon pivots 36, to the rear end, and the forward end of the body rests normally upon the forward end of this lower frame. To the forward end of the body is secured a segmental rack 37, meshing with which is a train of gears 38 journaled to the lower frame and operated by the crank 39, whereby the forward end of the body of the vehicle may be elevated. It is understood that any of the well-known connections may be used between the body of the vehicle and the lower frame for effecting this elevation, or, if preferred, the lower frame and its connections with the body of the vehicle may be left out altogether, and the body of the wagon connected directly to its running gear.

The upper half 40 of the fifth wheel of the vehicle is spaced from and rigidly secured to the lower supporting frame of the vehicle by means of a series of over-lapping angle-irons 41, channel beams 42, and bolts 43, and the lower half of the fifth wheel is connected to its axle by a similar construction.

Fig. 6 shows a modified form of the body of the vehicle, in which the upward extension of the front end of the vehicle as shown in Figs. 1, 4, and 5 is omitted, and the seat 19 is placed upon a level with the upper edge of the sides of the vehicle, and the steps shown in Fig. 1 at 25 are removed and a foot rest 44 is placed between these extensions of the side beams of the body, instead of being put upon brackets as shown in Fig. 5.

In the modifications shown in Figs. 8 and 9 the floor of the vehicle is formed in a manner similar to that heretofore described, the cross braces, however, being formed of two overlapping angle-irons riveted together to form a channel beam having its side webs extending horizontally to support the floor, and the vertical side braces are removed and a side structure is substituted consisting of an oblong plate of sheet metal 45 having an outward flanged top edge 45' finished with an angle-iron 46 riveted thereto. This plate 45 has riveted to its outer surface the vertical angle-irons 47, which are shaped to conform to the configuration of the side, and are extended below the lower edge thereof, and secured by bolts or rivets 48 to the longitudinal side braces 1 of the floor. In these figures is also shown a name-plate 49 secured to the body of the vehicle by means of the rivets 50 fastened through the side thereof, the plate resting upon the outer edge of the said vertical braces 47, and being also spaced from the side of the body by means of the washers 51 over the said rivets 50.

The modification of the body shown in Figs. 12 and 13 is constructed in a manner similar to that shown in Figs. 8 and 9, except

that the outward extending flanges upon the upper edge of the side of the vehicle is omitted and the edge is finished with the angle-iron 52 riveted thereto, and having its horizontal web resting upon the top edges of the vertical side braces 47.

The Figs. 10 and 11 show a further modification of the body in which the floor is constructed as shown in Fig. 1, but instead of vertical side braces composed of overlapping angle-irons as in Fig. 1, single angle-irons 53 form the supports for the sides, which consist of sheet metal plates 54 secured to the outer sides of the vertical braces and having an outwardly flanged upper edge 55 finished with an angle-iron 56 in a manner similar to that already described. The flanged edge 55 is braced by means of a bracket 56 riveted to the said edge and to the side of the wagon.

Figs. 14 and 15 show a further modification, in which the construction of the floor and of the sides is similar to that shown in Figs. 10 and 11, except that the upper flanged edge of the side plate is omitted, and also its supporting bracket and the top of the side is finished with an inwardly turned angle-iron 57 riveted to the outer plate 54, and resting upon the top edges of the vertical side braces 53.

I do not wish to limit myself to the identical forms shown and described in this application, because it is evident that various styles of vehicle bodies might be constructed in accordance with this invention, and various changes in the details of construction are possible without departing from the spirit of this invention or the scope of its claims. For instance U shaped channel irons may be substituted in the structure for the channel beams, shown as made of two L shaped angle-irons fastened together, or I beams of structural iron might be used for the same purpose, and wood might be substituted for the metal plates, constituting the cover for the frame of the body.

While in the drawings I have herein shown my invention as applied in the construction of a wagon to be drawn by horses, yet I do not wish to limit it to this particular form of conveyance, for other forms, such as automobiles, steam railroad cars, and trolley cars might be advantageously constructed in the same manner.

A vehicle constructed in accordance with this invention, of steel or iron can be painted, enameled, plated, galvanized or treated in any suitable manner to protect the metal and to give an artistic finish to the vehicle.

Having thus fully described my invention, what I claim and desire to protect by Letters Patent is:—

1. In a vehicle, a body comprising longitudinal and transverse angle-irons fastened together, and constituting a floor frame, verti-

cal angle-irons secured in the angles between said longitudinal and said transverse angle-irons, constituting supports for a side plate, and a side plate secured to said vertical supports and having an upper flanged and slotted edge, embracing the webs of said vertical supports.

2. In a vehicle, a body comprising a floor, vertical side supports connected thereto, and a side plate secured to said vertical supports, having a flanged and slotted upper edge, embracing the upper ends of said supports.

3. In a vehicle, a body comprising a floor, vertical channel shaped side supports secured to said floor, the side webs of said channel supports extending longitudinally of said body, and the inner side webs being shorter than the outer side webs, and a side plate secured to said vertical supports, and having an upper flanged and slotted edge resting upon the upper edges of the shorter webs and embracing the transverse webs of said vertical supports.

4. In a vehicle, a body comprising a floor, vertical side supports connected thereto, said side supports consisting of overlapping L shaped angle-irons secured together to form U shaped channels, one of said angle-irons in each support being shorter than the other, and a side plate secured to said vertical braces, having an upper flanged and slotted edge resting upon the ends of the shorter angle-irons and embracing the webs of the longer angle-irons of said side braces.

5. In a vehicle, a body comprising a floor, vertical side braces connected thereto, said side braces each consisting of two L shaped angle-irons overlapping and secured together to form a U shaped channel having its sides extending longitudinally of said body, one angle-iron being shorter than the other angle-iron, and a side plate fastened to said braces having an upper flanged and slotted edge resting upon the upper edges of the said shorter angle-iron and embracing the transverse web of the longer of the said angle-irons.

6. In a vehicle, a body comprising a floor, vertical side braces secured to said floor, a side plate fastened to said side braces upon one side, and having a flanged and slotted upper edge embracing the upper edges of said side braces, and a plate upon the opposite side of said braces having an upper flanged edge resting upon the upper edges of said side braces, and projecting over the flange of the opposite plate.

7. In a vehicle, a body comprising a pair of longitudinal angle-irons, transverse braces extending between said angle-irons and secured in the angles thereof, said longitudinal and transverse angle-irons constituting a floor frame, vertical side braces secured in the angles of said floor frame, and a side plate secured to the outer edges of said verti-

cal supports and resting upon the upper edge of said longitudinal angle-irons, said side plate having an inwardly flanged edge resting upon the upper edges of said vertical supports covering the same.

8. In a vehicle, a body comprising a floor, vertical side supports secured to said floor, said side supports each comprising two L shaped angle-irons, having overlapping webs secured together and extending transversely of the vehicle, and having two spaced webs extending longitudinally thereof, a side plate resting against said side supports, fastening devices extending through said side plate, and through the longitudinally extending side webs of said vertical supports, and spacing means secured between the opposite webs of each of said side supports.

9. In a vehicle body, an end comprising a marginal frame of channel shape, opening inwardly, cross braces secured within the channel of said frame, and an end plate covering the space within said frame and secured over said cross braces.

10. In a vehicle body, an end comprising a marginal frame of channel shape, opening inwardly, cross braces secured within the channel of said frame, and an end plate covering the space inclosed within said frame and secured between the said cross braces and the outer flanges of said frame.

11. In a vehicle, a body comprising a floor, a front plate, and a vertical angle-iron secured to the rear of said front plate, said angle-iron having one web extending longitudinally and one web transversely of the vehicle, the lower end of the longitudinally extending web being turned horizontally away from the angle iron and resting upon and secured to the floor of the vehicle, and the other web being extended below the upper surface of the floor of the vehicle and secured to said floor.

12. In a vehicle, a body comprising longitudinal side beams extending forward beyond the front end of said body, a floor secured between said side beams, a front plate having notched lower corners, and resting upon and between said extensions, and a vertical angle-iron secured to the rear of said front plate, having one web extending in a plane longitudinal and one web extending in a plane transverse of said vehicle, the lower end of the longitudinal web being turned horizontally away from said angle iron and resting upon and secured to the floor of the vehicle, and the other web being extended below the upper surface of the floor of the vehicle and secured to the floor.

13. In a vehicle, a body comprising a floor, a front plate, a vertical angle-iron secured to the rear of said front plate and spaced from the sides of the vehicle, said angle-iron having the webs at its lower end divided, one of said webs being turned horizontally and

resting upon and secured to the floor of the wagon, and the other web being extended below the upper surface of the floor of the vehicle and secured to said floor, a bracket extending longitudinally of the vehicle secured to the said vertical angle iron at its upper end, and a seat supported by said bracket.

14. In a vehicle, a body comprising longitudinal side beams extending forward beyond the front end of said body, a floor secured between said side beams, vertical side braces secured to said side beams, a front plate having notched lower corners resting upon and between said side beams, a vertical angle-iron secured to the rear of said front plate and spaced from the sides of the vehicle and having a bifurcated lower end, one part of said bifurcated lower end being turned horizontally and secured to the said floor, and the other part extending below the upper surface of the floor, being secured to said body, a bracket extending longitudinally of the vehicle secured to the upper end of said angle-iron, and a seat supported by said side braces and said bracket.

15. In a vehicle, a body comprising longitudinal side beams extending forward beyond the front end of said body, steps secured to said forward extensions, a front plate having notched lower corners and resting upon and between said extensions, a foot rest bracketed to said front plate, vertical L shaped angle-irons secured to the rear of said front plate and spaced from the sides of the vehicle, said vertical angle-irons having their webs divided at the lower ends thereof, one of said webs of each iron being turned horizontally and resting upon and secured to the floor of the vehicle, the other web of each iron being extended below the upper surface of the floor of the vehicle and being secured to the supporting frame of the floor of the vehicle, brackets extending longitudinally of the vehicle secured to the upper ends of said vertical angle-irons, and a seat supported by said brackets and said front plate.

16. In a vehicle body, a side having a strip secured to the outer face and spaced from the upper edge thereof, an outwardly extending bracket secured to said side and extending upwardly over and against said strip, and a side extension for said body, comprising a plate secured to the upper edge of said bracket and having its inner edge turned downwardly between said bracket and said side and resting upon the upper edge of said strip.

17. In a vehicle body, a side having an angle iron secured along its upper edge, one web of said angle iron resting horizontally upon the edge, and the other web resting vertically against the outer face of said side, a strip narrower than the vertical web of said angle iron secured along the lower edge there-

of, an outwardly extending bracket secured to said side and extending upwardly over and against said strip, a plate secured to the upper edge of said bracket, the inner edge of said plate being turned downwardly between said bracket and said angle iron and resting upon the upper edge of said strip.

18. In a vehicle body, a side having a strip extending along the lower margin thereof, an extension for said side and a bracket secured to said side to support said extension, said bracket resting at its lower end upon the upper edge of said strip and having a portion of said end extending over the face of said strip and secured thereto.

19. In a vehicle body, a side having an angle iron along the upper edge thereof, one web of said angle iron extending vertically along the outer face of said side, a marginal strip along the lower edge of said side of substantially the same width of the vertical web of said angle iron, a strip narrower than said web extending along the lower edge thereof, a similar strip extending along the lower margin of said body, an outwardly extending bracket secured to said side and to said strips, the inner contour of said bracket conforming to the contour of said side and said strips leaving a space between the bracket and the angle iron above said upper strip, and a side extension comprising a plate secured to the upper edge of said bracket and having its inner edge resting against the upper edge of said upper strip in the space between the bracket and the said angle iron.

20. In a vehicle body, a side having an angle iron along the upper edge thereof, one web of said angle iron extending vertically along the outer face of said side, a marginal strip along the lower edge of said side of substantially the same width of the vertical web of said angle iron, a strip narrower than said web extending along the lower edge thereof, a similar strip extending along the lower margin of said body, an outwardly extending bracket secured to said side and to said strips, the inner contour of said bracket conforming to the contour of said side and said strips leaving a space between the bracket and the angle iron above said upper strip, and a side extension comprising a plate secured to the upper edge of said bracket and having its inner edge resting against the upper edge of said upper strip in the space between the bracket and the said angle iron, and an angle iron extending over the outer edge of said plate, one web of said angle iron extending over the upper surface of said plate and the other web of said angle iron extending at right angles thereto over the edge of said plate and against the outer end of said bracket.

21. In a vehicle, a body comprising a floor with substantially vertical side supports con-

nected thereto, and a side plate secured to said vertical supports having a flanged and slotted edge embracing said supports.

22. In a vehicle, a body comprising a floor, vertical channel-shaped side supports secured to said floor, the inner side webs of said supports being shorter than the outer side webs.

23. In a vehicle, a body comprising a floor, vertical channel-shaped side supports secured to said floor, one of the webs of said supports being shorter than the other web and a side plate secured to said supports.

24. In a vehicle, a body comprising a floor, substantially vertical channel-shaped side supports, secured to the floor, one of the side webs of said supports being shorter than the other side web and a side plate secured to said supports and having a flanged edge resting upon the shorter of said webs.

25. In a vehicle, a body comprising a floor, substantially vertical channel-shaped side supports, secured to the floor, one of the side webs of said supports being shorter than the other side web and a side plate secured to said supports and having a flanged edge resting upon the shorter of said webs, and embracing the transverse webs of said supports.

26. In a vehicle, a body comprising a floor, substantially vertical side supports connected thereto, said side supports consisting of overlapping L-shaped angle-irons secured together to form substantially U-shaped channel-irons, one of said angle irons or supports being shorter than the other.

27. In a vehicle, a body comprising a floor, substantially vertical side supports connected thereto, said side supports consisting of overlapping L-shaped angle-irons secured together to form substantially U-shaped channel-irons, one of said angle irons or supports being shorter than the other and a side plate secured to said supports and having a flanged edge embracing the webs of the longer angle-irons of said supports.

28. In a vehicle body, an end comprising a marginal frame of channel-shape, opening inwardly, cross braces secured within the channel of said frame and an end plate secured over said cross braces.

29. In a vehicle body, an end comprising a marginal frame of channel-shape, cross braces secured within the channel of said frame, an end plate covering the space within said frame.

30. In a vehicle body, a side having a strip secured thereto, an outwardly extending bracket secured to said side and extending upwardly over and against said strip and a side extension for said body having its inner edge secured between said bracket and side.

31. In a vehicle body, a side having a strip extending adjacent the upper edge

thereof, a lateral extension for said side having an edge in contact with the upper edge of said strip, and a bracket between said side and said extension.

5 32. In a vehicle body, a side having an angle iron secured along its upper edge, one web of said angle iron resting upon said edge and the other web resting against said side, an outwardly extending bracket secured to
10 said side, a plate secured to the upper edge of said bracket, the edge of said plate being secured between said bracket and said angle iron.

33. In a vehicle body, a side having an
15 angle iron secured along its upper edge, one web of said angle iron resting upon said edge, and the other web resting against said side, a strip secured upon the outer surface of said latter web along the lower margin thereof,
20 an extension for said side resting upon the upper edge of said strip, and a bracket between said extension and said side.

34. In a vehicle body, a side having an
25 angle-iron along the upper edge thereof, one web of said angle iron extending along the outer face of said side, a marginal strip along the lower edge of said side, a second strip extending along the lower edge thereof, a similar strip extending along the upper margin
30 of said body, a bracket secured to said side and said strips, the inner contour of said bracket conforming to the contour of said side and said strips and a side extension having its inner edge secured between said
35 bracket and said angle iron.

35. In a vehicle body, a series of substantially vertical ribs, a floor frame consisting of longitudinal and transverse structural bars, longitudinal angle irons resting upon
40 said floor frame and against the inner sides of said vertical ribs connecting said vertical ribs with said floor frame, and a side of sheet metal secured to said vertical ribs.

36. In a vehicle body, a series of substantially vertical ribs, sides rigidly secured to

said ribs, an angle-iron at the top of said side with a flange extending outwardly from said side and a stiffened strip of sheet metal secured to said angle iron to form a continuation of said side.

37. In a vehicle body, a series of substantially vertical ribs, a side rigidly secured to said ribs, said side being flared outwardly at the upper edge thereof and a marginal angle iron for stiffening said flaring portion.

38. In a vehicle, a body frame composed of longitudinal angle-irons and transverse bars connecting the same, a supporting frame for said body comprising longitudinal angle-irons and transverse bars connecting
55 the same, and means to attach said body frame to said supporting frame.

39. In a vehicle body, a series of substantially vertical ribs of substantially channel shape in cross section, a plate secured to the
65 inside webs of said ribs, a sleeve substantially filling the space between said webs and a bolt passing through said plate, webs and sleeve to secure said plate to said ribs.

40. In a vehicle body, a series of substantially vertical ribs of substantially channel shape in cross section, a plate secured to outside webs of said ribs, a sleeve substantially filling the space between said webs and means
75 passing through said plate, webs and sleeves to secure said plate to said ribs.

41. In a vehicle body, a series of substantially vertical ribs having a plurality of webs, one of said webs being shorter than the other and a side plate having a flange resting
80 upon the shorter of said webs and secured to said ribs.

In witness whereof I have hereunto set my hand this twenty-seventh day of April, 1907.

JOHN REPETTO.

Witnesses:

ALSTON B. MOULTON,
ALEXANDER PARK.