No. 686,795

Patented Nov. 19, 1901.

R. C. WRIGHT & F. E. STEBBINS.

CONSTRUCTION OF CAR TRUCKS.

(Application filed May 27, 1896.)

(No Model.)

3 Sheets—Sheet 1.

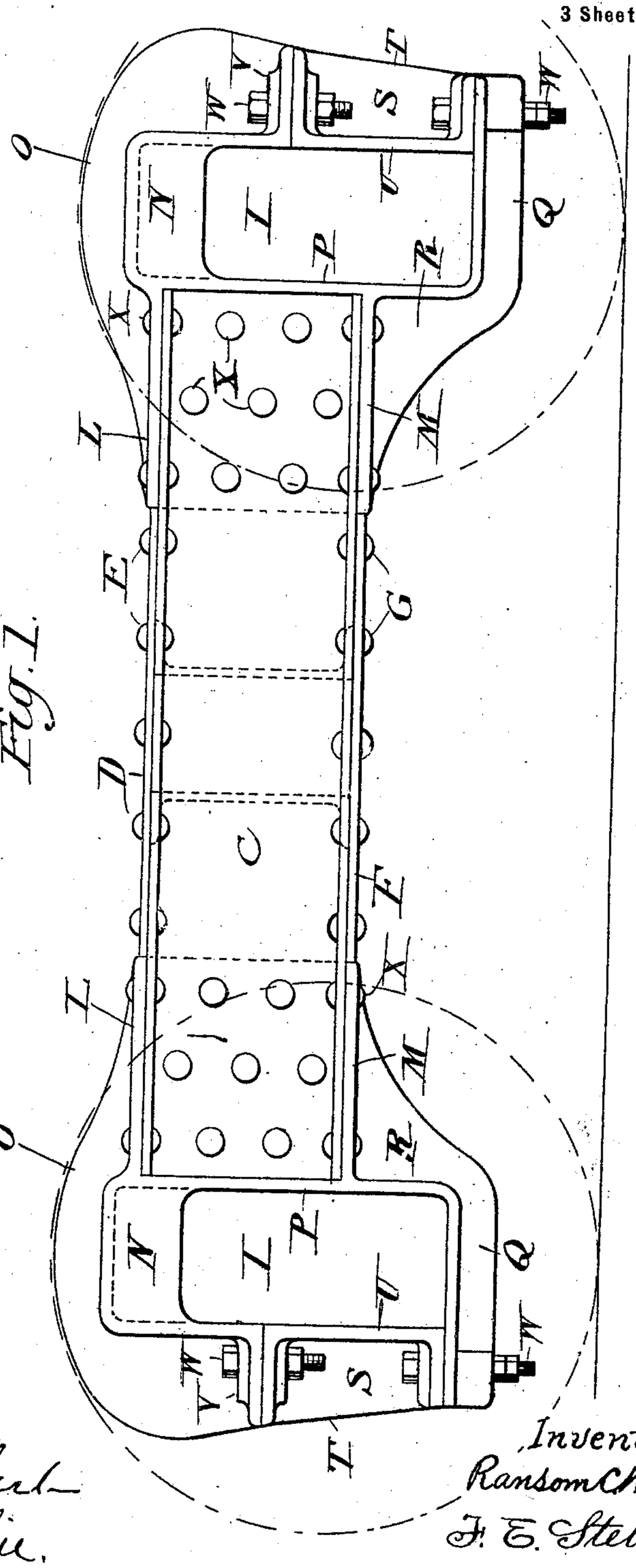

Fig. 1.

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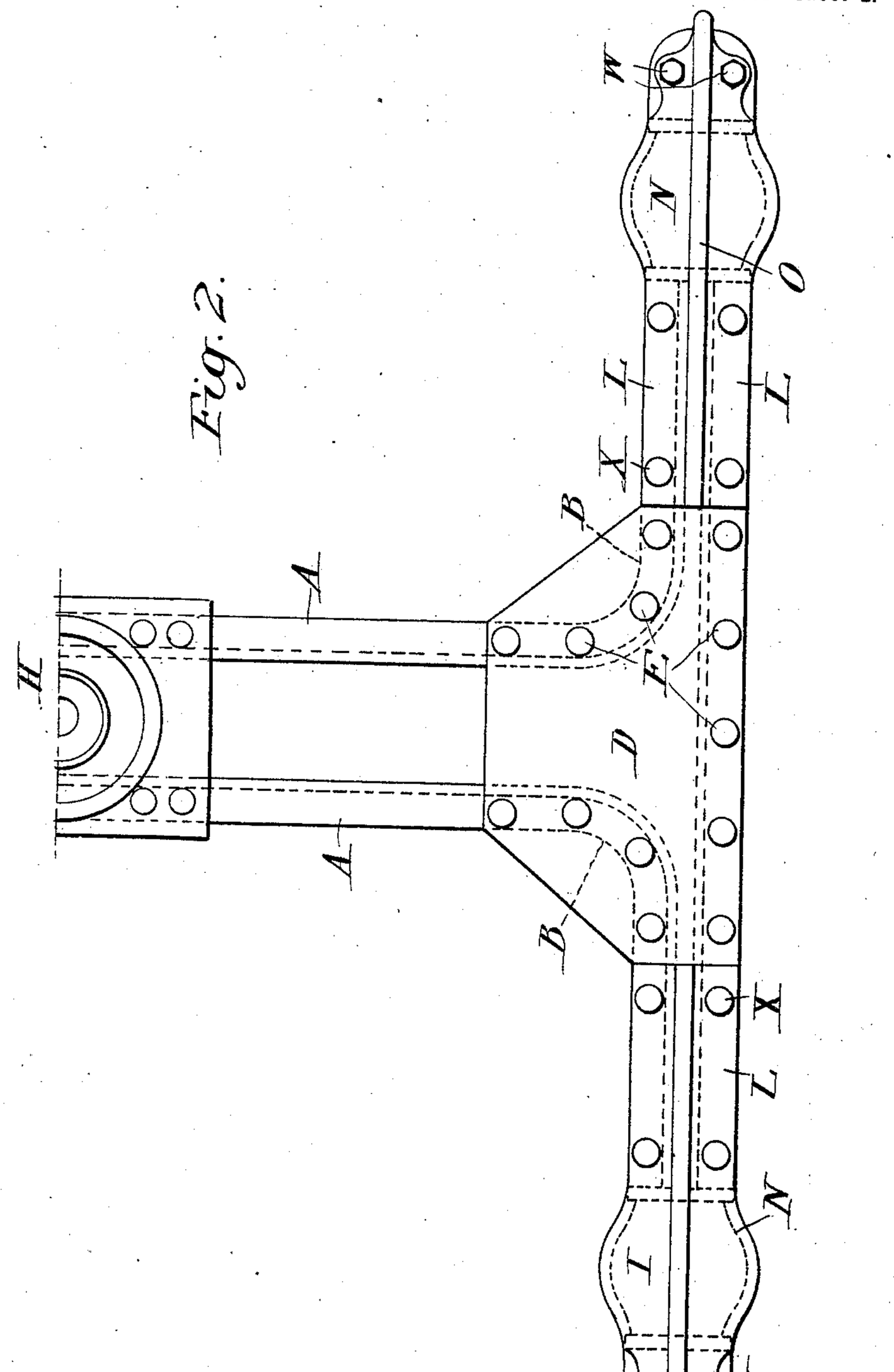
3 Sheets—Sheet 2.

Fig. 2.



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3 Sheets—Sheet 3.

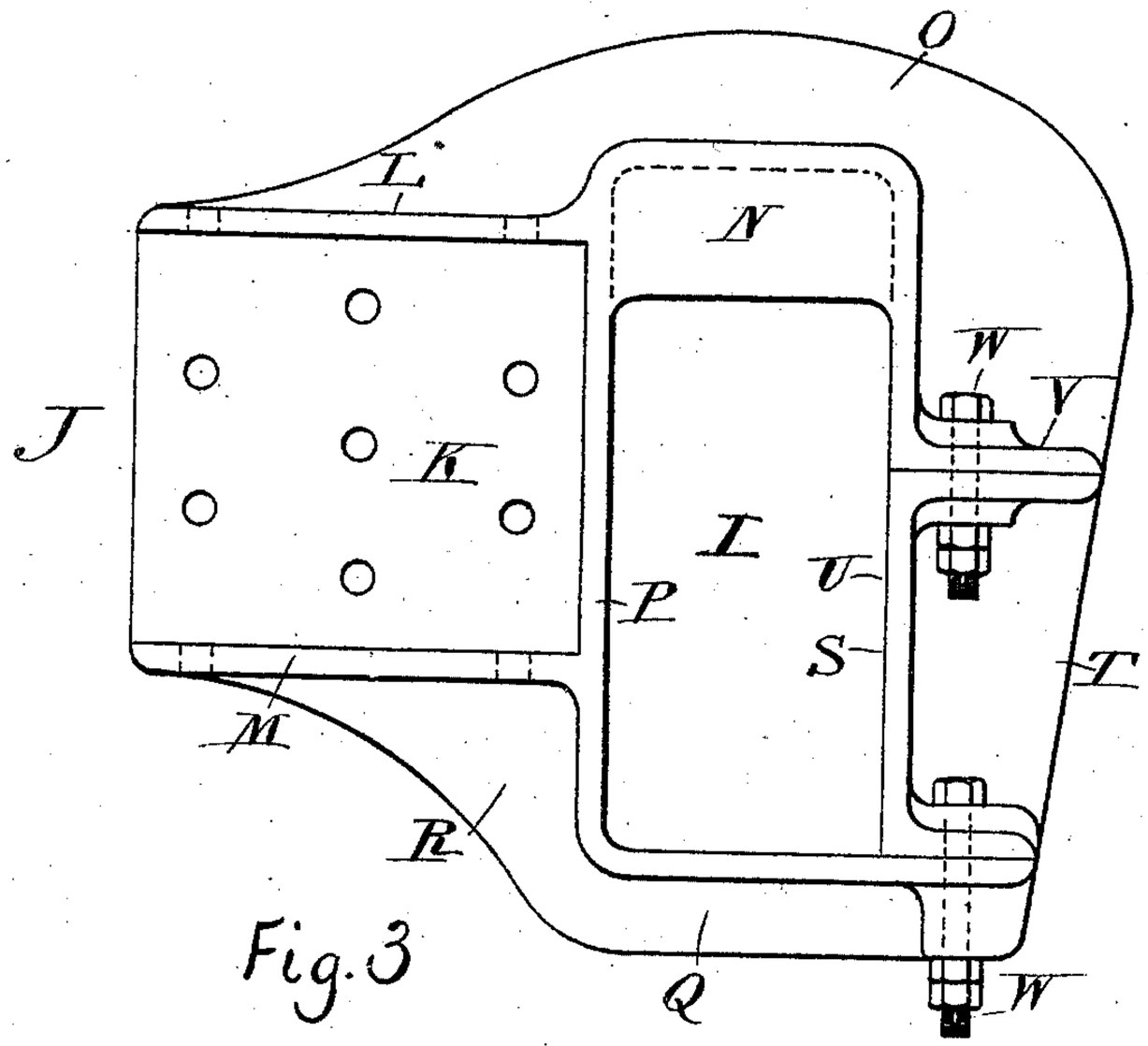

Fig. 3

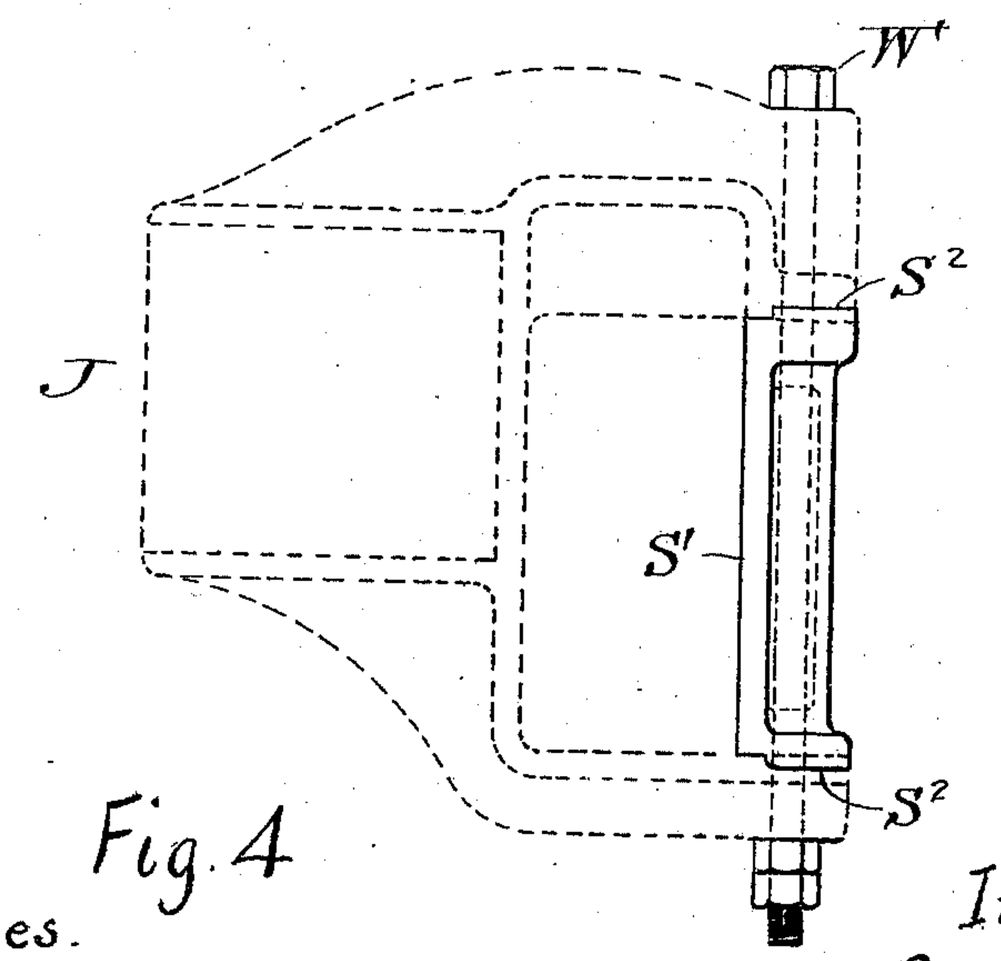

Fig. 4

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UNITED STATES PATENT OFFICE.

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CONSTRUCTION OF CAR-TRUCKS.

SPECIFICATION forming part of Letters Patent No. 686,795, dated November 19, 1901.

Application filed May 27, 1896. Serial No. 593,261. (No model.)

To all whom it may concern:

Be it known that we, RANSOM C. WRIGHT, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, and FRANK E. STEBBINS, residing at Washington, District of Columbia, citizens of the United States, have invented certain new and useful Improvements in the Construction of Car-Tracks; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to car-trucks, the main object being the production of a truck comprising comparatively few parts, which can be cheaply constructed, which shall be strong and durable, which can be easily repaired by the substitution of a part, and which shall admit of the facile removal of a pair of wheels and an axle and without the necessity of jacking up the car-body which rests upon the truck.

Our invention consists, objectively, in a truck having the transoms and sides formed of flanged metallic beams suitably united at their junctions and with cast-metal pedestals at the free ends of the side frames or pieces, the said pedestals each having a removable end piece or jaw.

Further, it consists in a truck having a transom or transoms and flanged side frames with free ends, to which are detachably secured by rivets or bolts cast-metal pedestals provided with extensions or necks and with removable end pieces or jaws.

Further, it consists in a cast-metal pedestal adapted to be secured onto the end of a side frame, said pedestal having a removable jaw or end piece secured in position.

Finally, it consists in certain novelties of construction and combinations of parts, substantially as set forth and claimed.

The accompanying drawings illustrate one complete example of the physical embodiment of our invention and one modification of the pedestal.

Figure 1 is a side view in elevation of the truck-frame proper, the springs and journal-boxes being omitted, but the wheels indicated by dotted lines. Fig. 2 is a half top plan view of Fig. 1, the half not shown being identical with that illustrated. Fig. 3 shows one cast-metal pedestal detached from the end of a side frame. Fig. 4 illustrates a modified form of removable end piece or jaw for the pedestal.

The main portion of the truck-frame, embracing the transoms or cross pieces or pieces, is preferably constructed of flanged beams or rolled shapes by methods analogous to those set forth in our application filed February 5, 1896, Serial No. 578,163, the transoms being bent and the sides straight and the said main portion or side frames presenting four free ends, to which the cast-metal pedestals are secured.

Referring to Figs. 1, 2, and 3 of the drawings, the letter A designates the transoms or pieces which are located between the pairs of wheels, in this instance consisting of rolled channel-beams; B, the ends of the transoms, which are in this example shown bent and turned to the right and left; C, one of the side pieces, which in this example is a channel-beam; D, a top stiffening-plate. E represents rivets which are passed through plate D and the flanges of the transons and side piece. F is a bottom plate similar in form to the top plate D. G represents rivets which secure the bottom plate to the flanges of the transoms and side piece, and H is a center plate of any approved construction. The pedestals are made of cast metal and in a shape adapted to provide the requisite strength with the least weight of metal, the same being properly distributed. The letter I designates a complete pedestal. J is a neck or extension at right angles to the jaws and bearings for the journal-box; K, the web of the neck. L represents top horizontal flanges; M, bottom horizontal flanges. N is a seat or pocket for a spring; O, a flange extending along the neck and over the head of the pedestal; P, a fixed bearing-flange constituting a fixed perpendicular jaw which frictionally engages a journal-box; Q, a hori-

zontal lower extension of the shape shown; R, a strengthening-flange; S, a removable piece or jaw; T, a web of the jaw; U, the bearing-flange of the jaw; V, a downwardly-extended portion of the pedestal, serving as a bearing for the upper portion of a journal-box in some cases and also as a seat for the upper end of the removable piece or jaw S, which frictionally engages its lower horizontal surface. W represents the four removable bolts which hold the end piece or jaw S in place between the extension V and extension Q. X represents rivets which are passed through the flanges L and M of the pedestal extension and the flanges of the side frame, as indicated on the figures of the drawings, and X′ rivets which are passed through the webs of the pedestal and side frame.

Fig. 4 shows a modification of the removable end piece or jaw of the pedestal and a way of removably holding it in position. The letter S′ designates the jaw or end piece, which has a bearing-flange and a longitudinal aperture for a bolt. S^2 represents lips which engage the head and lower horizontal extension of the pedestal and serve to take in part at least the side strains, and W′ is a single bolt, which passes through an aperture in the head of the pedestal, the hole in the piece S, and through an aperture at the end of the lower horizontal extension, as shown.

It will be observed that in the single example illustrated the ends of the transoms are bent and extended and that the necks of the pedestals are secured between the ends of the side pieces and the ends of the transoms; but the method of detachably uniting the extensions or necks to the side frames may and should be varied as occasion may demand and in accordance with the shape of the ends of the side frame and the beam used.

The preferred form of the pedestal is shown in Fig. 3, where the removable piece S is secured in position between the horizontal extension Q and extension V by four bolts and nuts, two of said bolts being located on each side of the web T. These bolts are provided with ample bearing-surfaces where they pass through the flanges at the ends of piece S and extensions V and Q, and when the nuts are tightened the piece S is rigidly clamped in position between the flanges on the said extensions. Two long bolts may of course be substituted for the four bolts shown when deemed preferable. In either case the tightening of the nuts on the perpendicular bolts will cause the piece S to be gripped between the extensions V and Q, so that the bolts will not be subjected to excessive horizontal shearing strains in service. The journal-box is obviously located within the recess of the pedestal, with a spring or springs interposed between it and the spring seat or pocket when desired. To remove a pair of wheels and an axle, the frame is jacked up far enough to bring the boxes in line with the openings normally closed by the removable jaws or pieces S.

In the example of truck-frame illustrated we have shown the side frames with their top and bottom flanges in straight horizontal lines and the pedestals secured to the ends of the side frames in such a way that the lower horizontal edges of the side frames are in a line below the tops of the journal-boxes. This disposition allows the frames to take the thrusts of the boxes in a direct line. The necks or extensions of the pedestals are secured by rivets between the ends of the channel-beams constituting the side frames; but we do not confine ourselves to the use of such channels, inasmuch as other forms of beams—such as I, L, ⅂, Σ, and T shaped in cross-section, bent or straight, rolled or pressed to shape—may be substituted for sides and transoms, or either, as found convenient. When an I or other shaped beam is selected, the neck or extension of the pedestal will of course be slightly altered in shape or construction, so that it can be rigidly riveted to the end or flanges of the beam or side frame. The ends of the side frames are preferably cut off or fashioned square and the necks or extensions of the pedestals attached directly to them; but the free ends of the frames may be somewhat altered in shape.

It is to be understood that in practice modifications and unsubstantial changes may be introduced without passing outside the limits of our invention.

What we claim is—

1. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; side frames or pieces cut off square at the ends and united adjacent their central portions to the transom or transoms; and cast-metal pedestals having fixed and removable jaws and extensions at right angles to the jaws secured onto the ends of the side frames or pieces.

2. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; side frames or pieces cut off square at the ends and united adjacent their centers to the transom or transoms; and cast-metal pedestals having fixed and removable jaws and top and bottom flanges at right angles to the pedestal-jaws and seats or pockets for springs secured onto the ends of the side frames or pieces.

3. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; side frames or pieces cut off square at the ends and united adjacent their central portions to the transom or transoms; means for stiffening the frames at the junctions of the side frames and transom or transoms; and cast-metal pedestals having fixed and removable jaws and extensions at right angles to

the jaws and seats or pockets for springs secured onto the ends of the side frames or pieces.

4. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; side frames or pieces cut off square at the ends and united adjacent their central portions to the transom or transoms; cast-metal pedestals having seats for springs, flanged jaws, one of which is removable, and extensions at right angles to the jaws, secured to the ends of the side frames or pieces.

5. The combination in a truck structure, of a transom or transoms adapted to support a car-body and located between the pairs of wheels; flanged side frames or pieces cut off square at the ends and united by the transom or transoms; and cast-metal pedestals, each having a fixed and a removable jaw and an extension at right angles to the bearings for the journal-box, secured to the ends of the side frames or pieces.

6. The combination in a truck structure of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends and united by the transom or transoms; and cast-metal pedestals having fixed and removable jaws, and seats for springs, and extensions at right angles to the jaws secured to the ends of the side frames or pieces.

7. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; channel side frames or pieces cut off square at the ends; and pedestals having fixed and removable jaws and extensions at right angles to the jaws secured to the ends of the channel side frames.

8. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; rolled flanged beams constituting the side frames and cut off at the ends through the flanges and webs, and cast-metal pedestals having fixed and removable jaws secured onto the ends of the rolled and flanged side frames.

9. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their top flanges in straight horizontal lines from end to end; and cast-metal pedestals secured directly onto the ends of the side frames, said pedestals being provided with fixed and removable jaws and seats or pockets for springs.

10. The combination in a car-truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their lower flanges in straight horizontal lines from end to end, and cast metallic pedestals provided with fixed and removable jaws secured directly onto the ends of the side frames.

11. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their top and bottom flanges in straight horizontal lines from end to end; and cast-metal pedestals provided with fixed and removable jaws secured directly onto the ends of the side frames.

12. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having the top flanged in straight horizontal lines from end to end; and pedestals secured directly onto the ends of the side frames; said pedestals having extensions at right angles to the pedestal-jaws and fixed and removable jaws and seats for springs.

13. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their top flanges in straight horizontal lines from end to end; and pedestals secured directly onto the ends of the side frames; said pedestals having fixed and removable jaws.

14. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off square; and cast pedestals having fixed and removable jaws secured directly onto the ends of the side frames; the tops or heads of the pedestals extending above the plane of the side frames, whereby the seats for the springs may be located above the planes of the side frames and the transom or transoms dropped.

15. The combination in a car-truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames having their upper and lower flanges in parallel planes and their ends cut off through the flanges and webs; and metallic pedestals having fixed and removable jaws, and extensions at right angles to the jaws and comprising upper and lower portions located in frictional contact with the top and bottom flanges of the ends of the side frames when the pedestals are secured in position.

16. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; rolled flanged beams constituting the side frames and having their flanges and webs cut off at the ends; and cast-metal pedestals secured to the webs of the rolled flanged beams at their ends; the said pedestals having fixed and removable jaws, seats or pockets for springs, and the pedestal-jaws extending below the line of the lower flanges of the side frames.

17. In a car-truck, a transom or transoms

and side beams secured thereto, the latter having their upper and lower flanges turned outwardly, combined with the cast-metal pedestal-frames having fixed and removable jaws riveted to the ends of said side beams, and the top plate at each side of the truck riveted to the side beams and transom-beams.

18. The combination in a truck structure of flanged transoms located between the pairs of wheels and adapted to support a car-body; side frames or pieces cut off to form plain ends and to which the transom-beams are attached; and cast-metal pedestals having fixed and removable jaws, and extensions at right angles to the jaws secured onto the ends of the side frames or pieces.

19. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; side frames or pieces cut off to form plain ends and secured to the ends of the transoms; means for stiffening the transoms and side frames at their junctions; and cast-metal pedestals having fixed and removable jaws, seats for springs, and extensions at right angles to the pedestal-jaws secured to the ends of the side frames or pieces.

20. The combination in a truck structure, of flanged transoms; channel side frames with their flanges turned outwardly; and cast-metal pedestals, each pedestal having a fixed and a removable jaw, a web and flanges which overlap the channel side frames and said pedestal also secured to a transom.

21. The combination in a truck structure, of flanged transoms; channel side frames; and cast-metal pedestals secured onto the ends of the side frames; each pedestal having a fixed and a removable jaw, a web and flange and secured to a transom; and said channel side frames being provided with stiffening means at their junctions.

22. The combination in a truck structure, of flanged transoms; channel sides; and cast-metal pedestals having fixed and removable jaws and extensions at right angles to the jaws; the extension of each pedestal being secured to a channel side piece and to a transom.

23. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; channel side beams or pieces cut off to form plain ends; and cast-metal pedestals having fixed and removable jaws, and extensions secured to the ends of the side frames or pieces.

24. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces having their upper and lower flanges in parallel lines; and pedestals having fixed and removable jaws and extensions at right angles to the jaws secured to the ends of the said side frames or pieces.

25. The combination in a truck structure, of flanged transoms; channel side frames; and cast-metal pedestals; each pedestal having a fixed and a removable jaw, and an extension which is secured to the end of a channel side frame and to a transom adjacent its end.

26. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; and pedestals, each having a fixed and a removable jaw, secured onto the ends of the flanged side frames or pieces.

27. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; and pedestals having fixed and removable jaws and seats or pockets for springs, secured onto the ends of the flanged side frames.

28. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their flanges and webs cut off to form plain ends; and cast-metal pedestals secured to the side frames, each pedestal being provided with a fixed and a removable jaw and an extension at right angles to the jaws, and a flange adjacent the lower flange of a side frame.

29. The combination in a truck structure, of flanged transoms; flanged side frames cut off through the flanges and webs to form plain ends; and cast-metal pedestals having fixed and removable jaws and extensions secured onto the ends of the side frames; the extension of each pedestal frictionally engaging and riveted to the web of the end of a side frame.

30. The combination in a truck, of cast-metal pedestals having fixed and removable jaws and extensions or necks; flanged side frames or beams to which the extensions of the pedestals are secured by rivets; and flanged transoms uniting the flanged side beams adjacent their centers; said transoms being adapted to support a car-body.

31. The combination in a truck structure, of flanged transoms, flanged side frames or pieces having the flanges and webs cut off to form plain ends; and cast-metal pedestals, said pedestals having fixed and removable jaws, and top and bottom extensions engaging the top and bottom flanges of the side frames.

32. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; flat plates riveted to the transoms and side frames at their junctions; and cast-metal pedestals having fixed and removable jaws secured onto the ends of the side frames.

33. The combination in a truck structure, of a transom or transoms; flanged side beams or pieces; and cast-metal pedestals; each ped-

estal having a top flange and a bottom flange secured by rivets to the end of a side beam or piece, and also means for engaging the web of a side piece.

34. The combination in a truck structure, of a transom or transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having plain ends and united to the ends of the transoms; and cast-metal pedestals having fixed and removable jaws and extensions at right angles to the pedestal-jaws secured onto the four ends of the side frames.

35. A car-truck frame provided at each of its four ends with an upper horizontal part having a pocket for strengthening the head of the pedestal, a lower horizontal part, and an inner bearing-flange, said upper part with the pocket, the lower part, and the inner bearing-flange being cast integral; and a removable end bearing-piece secured by suitable means between the ends of the upper and lower horizontal parts; said pocket adapted to receive the end of a spring and rest upon a journal-box, located and having vertical movement between the upper and lower horizontal parts.

36. A truck-frame having cast-metal pedestals, each pedestal embracing an upper horizontal part with a pocket for strengthening the same and to receive a spring, a lower horizontal part, and an inner perpendicular bearing part for a journal-box, said three parts being cast integral, and a removable end bearing-piece secured by a bolt or bolts to the ends of the upper and lower horizontal parts.

37. A truck-frame having sides provided at each of their vertical ends with an upper horizontal part having an integral pocket or enlarged bearing for strengthening the head and to receive a spring, and a vertical inner bearing part for a journal-box, said two parts being cast integral; a lower horizontal part; and a removable end bearing-piece secured by suitable means to the ends of the upper and lower horizontal parts; the lower edges of the said sides of the frame being below the tops of the journal-boxes when in place.

38. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their top and bottom flanges in parallel lines; and cast-metal pedestals provided with removable jaws, horizontal extensions, and seats for springs secured onto the four ends of the side frames or pieces.

39. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; rolled flanged beams constituting the side frames and having their flanges and webs cut off at the ends; and cast-metal pedestals each having a fixed and removable jaw secured onto the ends of the rolled flanged beams.

40. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; and cast-metal pedestals having perpendicular fixed and removable jaws and extensions at right angles to the jaws secured onto the ends of the flanged side frames.

41. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; stiffening-pieces riveted to the transoms and side frames; and metallic pedestals having fixed and removable jaws secured onto the ends of the side frames.

42. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their lower flanges in straight horizontal lines from end to end; cast pedestals each having a fixed and a removable jaw secured directly onto the ends of the side frames; said pedestals being provided with seats or pockets for springs; and suitable means for stiffening the joints or unions between the transoms and sides.

43. The combination in a truck structure of two flanged transom-beams adapted to support a car-body; two rolled flanged side beams united adjacent their centers by the said transom-beams; and cast-metal pedestals secured onto the webs of the ends of the side beams, the journal-boxes being removable at the ends of the frame.

44. The combination in a truck structure, of two flanged transom-beams; two flanged sides having webs; and pedestals of cast metal having seats or pockets for springs and secured onto the webs of the side beams at their ends; the journal-boxes being removable at the ends of the frame.

45. The combination in a truck structure, of flanged transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having the top flanges in straight horizontal lines from end to end; and pedestals secured directly onto the ends of the side frames; said pedestals having a removable jaw and extensions at right angles to the jaws.

46. The combination in a truck structure, of two flanged transom-beams; two flanged side beams having free ends and webs; and pedestals secured to the ends of the side beams; each pedestal embracing a fixed jaw adjacent the frame, an outer removable jaw, a seat for a spring, and an extension at the top at right angles to the jaws.

47. In a car-truck, the flanged transom-beams and flanged side beams having their webs in vertical planes combined with the cast pedestal-frames each having a vertical web-flange to engage the end of a side beam, an upper flange engaging the upper flange of the side beam, a lower horizontal flange, and a fixed and a removable jaw for receiving a journal-box.

48. The combination in a truck structure, of flanged transoms; flanged side frames; and cast-metal pedestals having removable jaws; said pedestals being secured to the ends of the side frames and also to the transoms.

49. A truck side frame composed of a flanged beam and end castings formed with extensions, in combination with transoms of flanged beams which contact with and are riveted to the extensions of the pedestals; each of said pedestals having a removable jaw.

50. The combination in a truck structure of flanged transoms; flanged side frames; and cast-metal pedestals with removable side jaws and extensions at right angles to the jaws; each pedestal extension being secured to a side frame at the end thereof and the end of each transom resting on a flange of a pedestal or extension.

51. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends; means secured to the transoms and side frames or pieces at their junctions to stiffen the frame; cast-metal pedestals having fixed and removable jaws and extensions and seats for springs, secured onto the ends of the side frames.

52. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends; and pedestals each having a removable jaw secured onto the ends of the channel side frames or pieces.

53. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends; and pedestals having fixed and removable jaws and seats or pockets for springs, secured onto the ends of the channel side frames or pieces.

54. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends; and cast-metal pedestals having removable side jaws and extensions at right angles to the jaws secured onto the ends of the channel side frames or pieces.

55. The combination in a truck structure of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends; stiffening-pieces riveted to the transoms and side frames; and metallic pedestals each having a removable side jaw secured onto the ends of the side frames.

56. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends; flat stiffening-plates riveted to the transoms and side frames at their junctions; and cast-metal pedestals each having a removable jaw secured onto the ends of the side frames or pieces.

57. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces cut off to form plain ends and united to the ends of the transoms; and cast-metal pedestals having removable jaws and extensions at right angles to the jaws secured onto the four ends of the side frames.

58. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces having their top and bottom flanges in parallel lines; and cast-metal pedestals each having a removable jaw, secured onto the ends of the side frames or pieces.

59. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces having their top and bottom flanges in parallel lines; and cast-metal pedestals each provided with a removable jaw and a seat for a spring, secured onto the ends of the side frames or pieces.

60. The combination, in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; channel-beam side frames or pieces having their flanges and webs cut off substantially square and perpendicular to the length of the said frames or pieces; and cast-metal pedestals each having a removable jaw secured directly onto the ends of the side frames or pieces and projecting from the ends thereof; in substance as set forth.

61. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; rolled flanged beam side frames cut off through the flanges and webs; and cast-metal pedestals each having a removable jaw secured onto the ends of the rolled flanged beam side frames.

62. The combination in a car-truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their webs and flanges cut off to form plain ends; and cast-metal pedestals each having a removable jaw secured to the four ends of the side frames or pieces; each of said pedestals having an extension at right angles to the jaws and adjacent the lower flange of a side frame.

63. The combination in a truck structure, of channel-transoms; flanged side frames; and cast-metal pedestals; each pedestal having a removable jaw and an extension at right angles to the jaws; a bottom flange which is in contact with a flange of the side frame, and a

web which engages the side of the side frame; and the extension of a pedestal secured to a transom adjacent an end thereof.

64. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; stiffening-pieces riveted to the transoms and side frames or pieces at their junctions; and cast-metal pedestals each provided with a removable jaw and a seat for a spring secured onto the ends of the side frames.

65. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their lower flanges in straight lines; and cast-metal pedestals each provided with a removable jaw and a seat for a spring secured onto the ends of the side frames or pieces.

66. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces having their flanges and webs cut off substantially square and perpendicular to the lengths of the said frames or pieces; and cast-metal pedestals each having a removable jaw secured directly onto the ends of the side frames or pieces and projecting from the ends; in substance as set forth.

67. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to adapt them to receive cast-metal pedestals; and cast-metal pedestals each having a removable jaw and an extension secured to the webs of the side frames or pieces; the said pedestals each having a fixed jaw adjacent the end of the frame and also provided with a seat for the upper end of a coiled or helical spring.

68. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain and free ends; and pedestals each having a removable jaw secured onto the ends of the side frames or pieces.

69. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; flanged side frames or pieces cut off to form plain ends; and cast-metal pedestals having removable jaws and extensions at right angles to the jaws secured onto the ends of the side frames or pieces and projecting therefrom.

70. The combination in a truck structure, of channel-beam transoms located between the pairs of wheels and adapted to support a car-body; rolled flanged beams constituting the side frames and having their ends cut off through the flanges and webs; and cast-metal pedestals each having a removable jaw secured to the ends of the rolled and flanged side frames.

71. The combination with a pedestal having a fixed and a removable jaw, and an extension at right angles to the jaws; of two metallic beams constituting an end of the car-truck side frame and one of said beams provided with flanges.

72. The combination in a car-truck and with a pedestal having a removable jaw and an extension at right angles to the jaw, of two flanged metallic beams constituting an end of a car-truck side frame.

73. The combination with a pedestal having a removable jaw and an extension or neck, of the ends of two channel-beams which form a portion of a side frame of a car-truck.

74. The combination with a pedestal having a removable jaw, of the ends of two flanged metallic beams constituting the end of a car-truck side frame; the said pedestal being secured in position between the ends of the two said flanged beams.

75. The combination with the commercial rolled-beam side frames having substantially vertical ends, of cast-metal flanged pedestals each having a removable jaw and secured to the vertical ends of the side frames.

76. A cast-metal pedestal having a fixed and a removable jaw, a seat for a spring, and an extension at one side thereof and at right angles to the said jaws, said extension comprising a lower flanged portion and an upper flanged portion between which a flanged end of a car-truck frame is secured.

77. A cast-metal pedestal having a fixed and a removable jaw, a seat for a spring, and an extension at one side thereof and at right angles to the said jaws, said extension comprising a lower flanged portion and a web to which an end of a car-truck frame is secured.

78. A cast-metal pedestal having a fixed and a removable jaw, a seat for a spring, and an extension at one side thereof and at right angles to the said jaws, said extension comprising a lower flanged portion, a web, and an upper flanged portion, and to which extension an end of a car-truck frame is secured.

79. A cast-metal pedestal having a fixed and a removable jaw, a seat for a spring, and an extension on one side thereof and at right angles to said jaws, said extension comprising a lower flanged portion, an upper flanged portion, and a web.

80. A cast-metal pedestal having a removable jaw, a seat for a spring, and an extension on one side thereof and at right angles to the said jaws, said extension comprising a lower flanged portion and an upper flanged portion, and a space between the flanges for the end of a car-truck frame and to which the pedestal is secured.

81. A cast-metal pedestal having a removable jaw, a pocket for the end of a spring, and an extension at one side thereof compris-

ing a lower flanged portion and an upper flanged portion both at right angles to the jaws, and to which extension an end of a car-truck frame is secured.

82. A cast-metal pedestal having a removable jaw, a seat for a spring, a horizontal extension, and an extension on one side thereof and at right angles to the jaws; said extension comprising a lower flanged portion, an upper flanged portion and a web, to which an end of a car-truck frame is secured.

83. The combination with the flanged end of a car-truck frame cut off square, of a cast-metal pedestal having a removable jaw, a seat for a spring and an extension on one side at right angles to the jaws, and to which extension the end of the frame is secured.

84. The combination with the flanged end of a car-truck frame, of a cast-metal pedestal having a removable jaw, a pocket for a spring; and an extension on one side at right angles to said jaws; said extension having a lower flanged portion, an upper flanged portion, and a web, to which the flanged end of the truck-frame is secured.

85. The combination with the flanged end of a car-truck frame, of a cast-metal pedestal having a removable jaw, a seat or pocket for a spring, and an extension at one side at right angles to the jaws; said extension having a lower flanged portion and a web, to which the said flanged end of the car-truck frame is secured.

86. A cast-metal pedestal having jaws P and S, extension Q, a bearing or pocket as N for a spring, and an extension at right angles to the jaws; said extension adapted to be secured to the end of a car-truck side frame.

87. A cast-metal pedestal having jaws P and S, extension Q, a bearing or pocket N for a spring, and an extension at right angles to the jaws; said extension adapted to be secured to the end of a car-truck frame, and said jaws having strengthening-flanges.

88. A cast-metal pedestal having jaws P and S, a seat or pocket N for a spring, and an extension at right angles to the jaws consisting of the flanged parts L and M; as set forth.

89. A cast-metal pedestal having jaws P and S, a seat or pocket N for a spring, and an extension comprising the flanged parts L and M and the web.

90. A cast-metal pedestal having jaws P and S, a seat or pocket N for a spring, an extension provided with the flanged portions L and M, and an extension Q to which the end of jaw S is secured.

91. A cast-metal pedestal having jaws P and S, a seat or pocket N for a spring, an extension provided with the flanged portions L and M, a horizontal extension Q, and a downwardly-projecting portion V.

92. A cast-metal pedestal having two jaws P and S, a seat or pocket N for a spring, an extension provided with the flanged portion R, the flanged portion O, and the extension Q.

93. In a car-truck structure, flanged side frames; and pedestals, each having an extension, a flange P, an upper horizontal portion, a lower horizontal portion, a removable flanged jaw, and means for holding the removable jaw in position.

94. In a truck, the combination with the flanged side frames, of cast-metal pedestals having a removable jaw and flanges which are secured by rivets to the flanges of the side frames, the said rivets passing through the flanges of both pedestals and side frames.

95. The combination with the end of a flanged side frame, of a cast-metal pedestal having a removable jaw, and flanges L and M secured to the flanged side frame by rivets X.

96. In a car-truck, the side frames, combined with the cast-metal flanged pedestals secured to the vertical ends of said side frames and having removable outer pieces or jaws.

97. In a car-truck, the side frames, combined with the cast-metal pedestals secured to the ends of the said side frames and each comprising an outer removable piece and a seat or pocket for a spring.

98. In a car-truck the rolled-beam side frames having substantially vertical ends, combined with cast-metal flanged pedestals secured to said vertical ends, each pedestal having an outer removable piece or jaw.

99. The combination in a truck structure, of a transom or transoms; flanged side frames; and cast pedestals secured onto the ends of the side frames; each pedestal having a removable jaw secured to the parts Q and V by a perpendicular bolt or bolts.

In testimony whereof we affix our signatures in presence of two witnesses.

RANSOM C. WRIGHT.
FRANK E. STEBBINS.

Witnesses:
GEO. W. REED,
NATHAN H. ROBBINS.