J. A. BUSH.

CAR TRUCK.

APPLICATION FILED MAY 15, 1915.

1,167,148.

Patented Jan. 4, 1916.

3 SHEETS—SHEET 1.

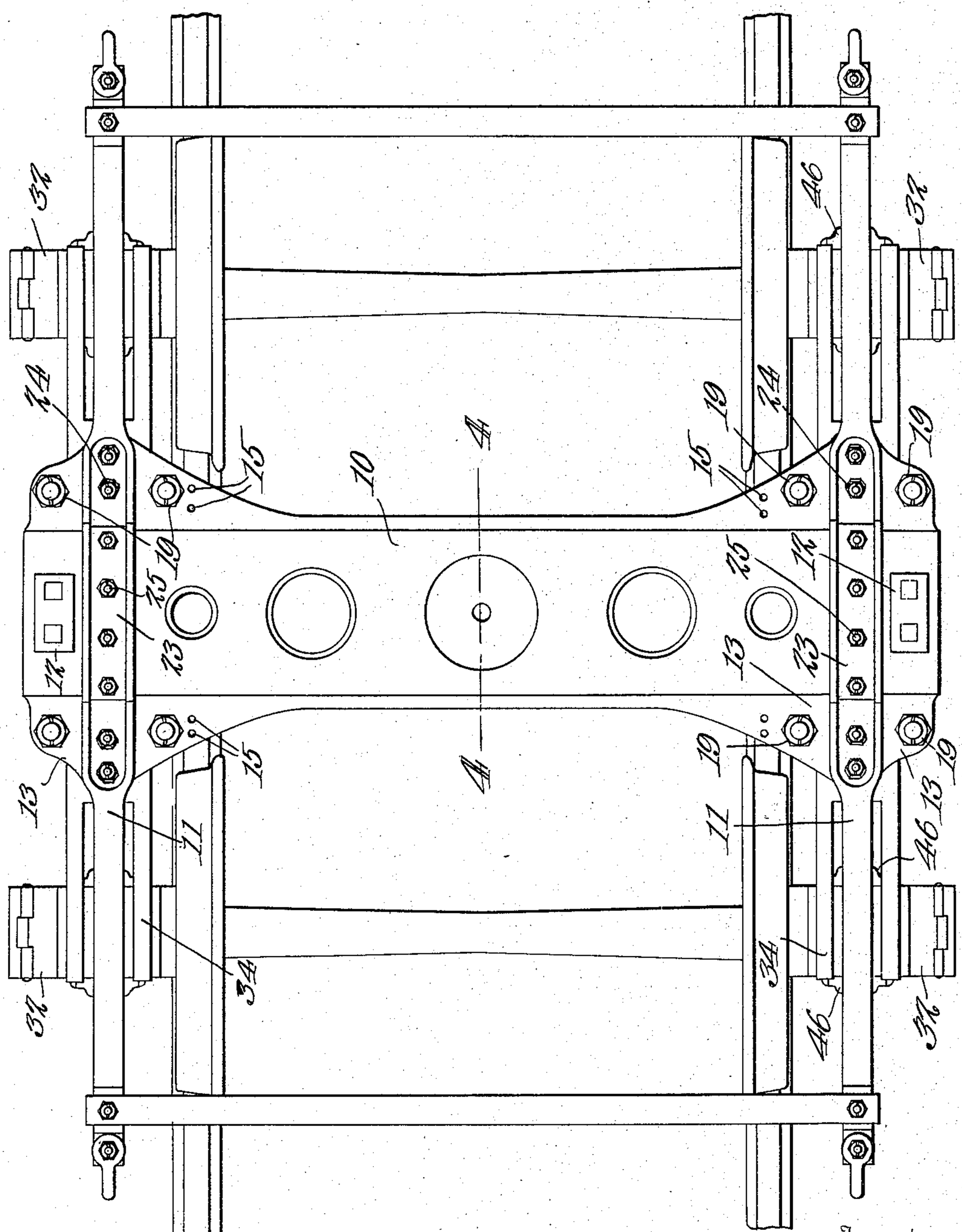

Fig. 1.

John A. Bush Inventor

By Max A. Schmidt
Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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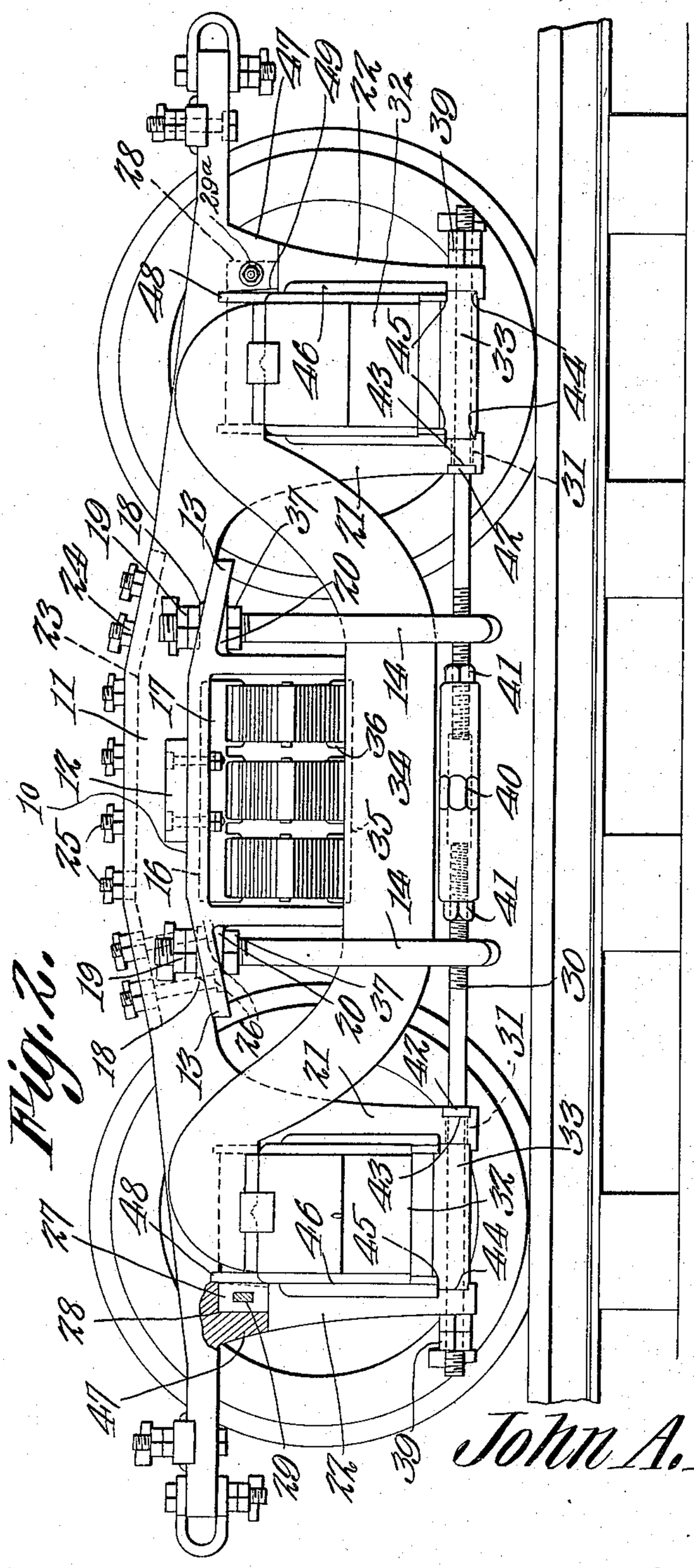

Fig. 2.

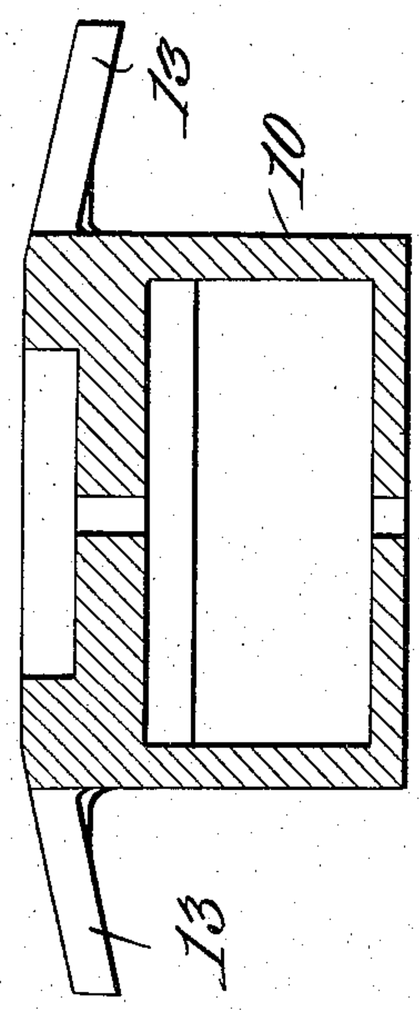

Fig. 4.

John A. Bush Inventor,

By Max A. Schmidt

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

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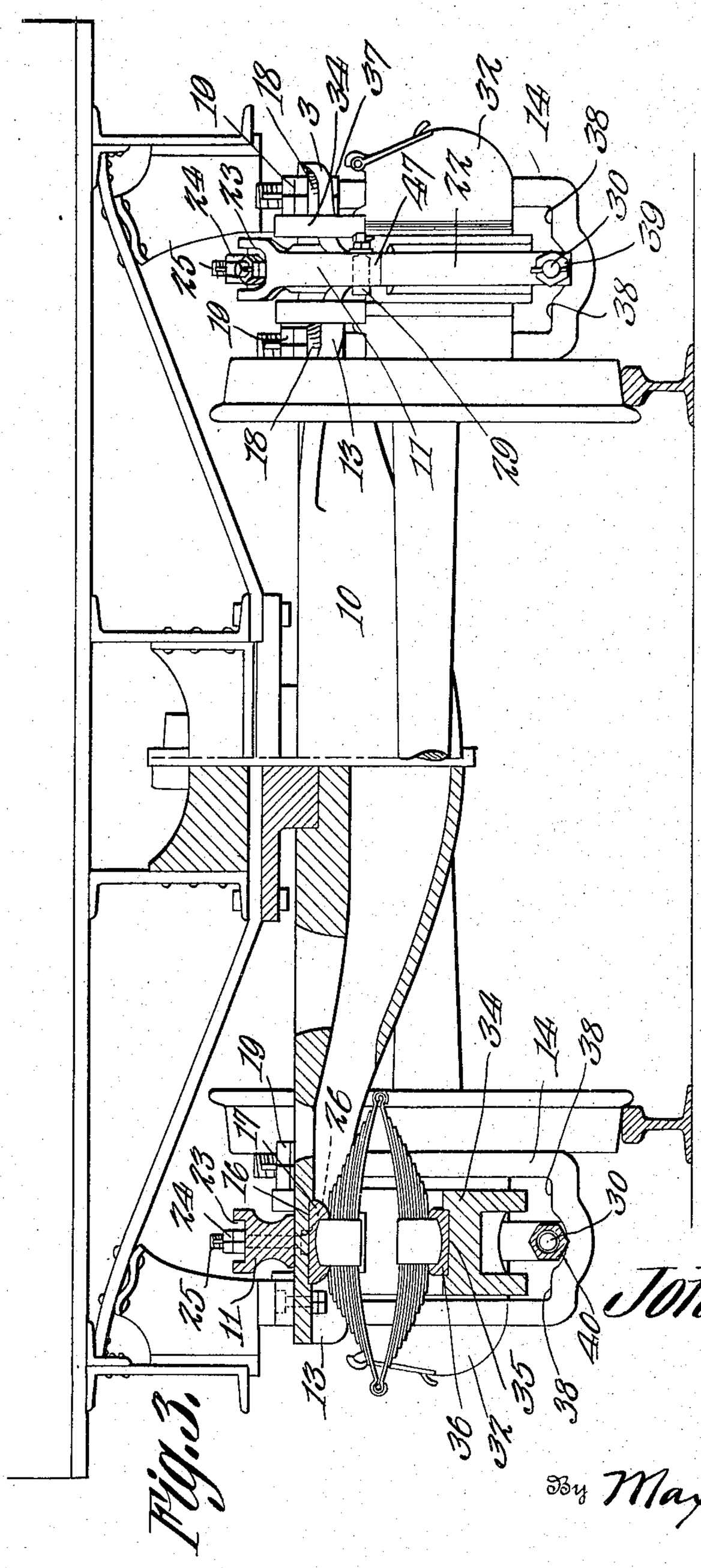

Fig. 3.

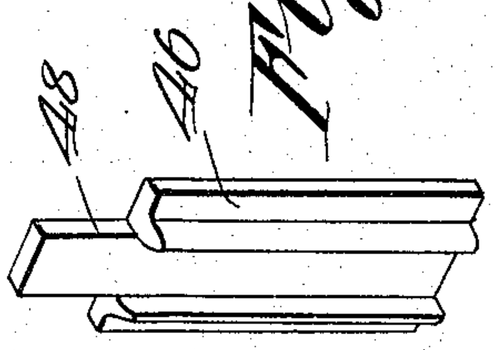

Fig. 6.

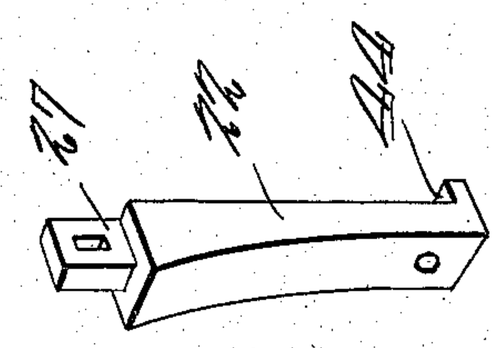

Fig. 5.

John A. Bush

Inventor

By Max A. Schmidt

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN A. BUSH, OF WALLA WALLA, WASHINGTON.

CAR-TRUCK.

1,167,148. Specification of Letters Patent. Patented Jan. 4, 1916.

Application filed May 15, 1915. Serial No. 28,371.

To all whom it may concern:

Be it known that I, JOHN A. BUSH, a citizen of the United States, residing at Walla Walla, in the county of Walla Walla and State of Washington, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

This invention relates to car trucks, and its object is to provide a structure which is strong and durable, with a novel pedestal structure whereby adjustment of the wheels can be readily made.

The invention also has for its object to provide a novel and improved construction and arrangement of equalizers, safety hangers and other parts, as will be described in detail hereinafter.

In order that the invention may be better understood, reference is had to the accompanying drawings, in which—

Figure 1 is a plan view of the truck; Fig. 2 is a side elevation thereof; Fig. 3 is an end view, partly in section; Fig. 4 is a cross-section on the line 4—4 of Fig. 1, and Figs. 5 and 6 are details in perspective.

Referring specifically to the drawings, 10 denotes a transom which is a steel casting of suitable shape at its ends to properly conform to the side frames 11 of the truck, and extending outwardly from the latter to support the side bearings 12, with integral forwardly and rearwardly extending wings 13 forming gusset braces for the side frames and also supports for safety hangers 14. The wings will also support brake hangers, bolt holes for the same being shown at 15. The transom is of sufficient thickness at its ends so that it may be here recessed, at the bottom, as indicated at 16, to form seats for the top spring saddles 17. The portions of the wings which support the safety hangers are cast thicker on top, as indicated at 18, to provide seats for nuts 19, and on the under side the wings have nut seats 20 which extend to the front and rear sides of the transom to brace the wings.

The side frames 11 have pedestals at their ends, each pedestal comprising inner and outer horns 21 and 22, respectively. The horns 21 are integral with the side frames, and the horns 22 are removably connected thereto. Each side frame has a top recess 23 to accommodate nuts 24, the recess being wide enough to permit application of a wrench to the nuts, and deep enough to leave ample clearance between the car frame and the bolts 25 on which said nuts are screwed. These bolts fasten the side frames to the transom ends, the heads of the bolts being countersunk in the bottom of the latter as indicated at 26.

Each removable pedestal horn 22 has a tenon 27 at the top which fits in a mortise 28 in the under side of the frame 11, and is here held rigidly in place by a wedge-shaped key 29 driven through the tenon and the mortised portion of the side frame, said parts having registering apertures to receive the key. The key is secured by a nut 29a. The horn is held at the bottom by a truss rod 30 passing through the pedestal horn 21, the latter being apertured, as indicated at 31, to receive the truss rod. The length of the truss rod is such that it extends between the pedestal horns 21, and also at each end beneath the journal boxes 32 across to the opposite removable pedestal horns 22. Between each horn 21 and the opposite removable horn 22, below the journal box, is a pedestal cap 33 for properly spacing the horn 22, and said cap has a longitudinal bore to receive the truss rod. The truss rod and the pedestal caps firmly bind the horns together, with the proper spacing therebetween, and also form, with the frame 11, a rigid truss.

The equalizers 34 are cast in one solid piece and have no bolt holes or other apertures so that they retain their maximum strength. The webs of the equalizers have top recesses 35 forming seats for the lower spring saddles 36, the latter being held in place by the weight of the car.

The safety hangers 14 are fastened to the transom wings 13 by the nuts 19, and also by nuts 37 screwed on the hangers beneath the wings against the seats 20. The hangers extend downward and around under the equalizers 34 and the truss rods 30, the bottom portion of the hangers being shaped to produce shoulders 38 to hold the equalizers and afford perfect safety from any falling member which might otherwise come in contact with the track bed, ties or rails and cause a wreck.

The ends of the truss rods 30 carry nuts 39 which are screwed against the pedestal horns 22, and intermediate their ends the rods are separated and connected by turnbuckles 40 having lock-nuts 41 at their ends. The truss rods also have fixed nuts or abut-

ments 42 which seat in recesses 43 in the outer faces of the pedestal horns 21. The inner opposite faces of the horns 21 and 22 have shoulders or seats 44 engageable by the ends of the caps 33, and said caps have top recesses 45 at their ends forming seats for the lower ends of the pedestal shoes 46 which fit against the inner faces of the pedestal horns. The ends of the side frames 11 have short depending stubs 47 in which are the mortises which receive the tenons 27. The shoes 46 have top tongues 48 which are opposite the inner faces of the stubs, said faces being slightly inclined, as indicated at 49, for a purpose to be presently described.

To take out either set of wheels of the truck for any purpose, the pedestal horn 22 corresponding to the set of wheels to be removed must be taken off, which is done in this manner: The nuts 39 are removed from the end of the truss rod 30 corresponding to the horn to be removed, and the key 29 which holds said horn at the top is driven out. The turnbuckle 40 is then screwed up to withdraw the fixed nut 42 from the seat 43 in the horn 21 opposite the horn to be removed. The loose end of the truss rod is then screwed into the turnbuckle until its end from which the nuts 39 were removed, clears the horn 22, whereupon the latter, with its shoe 46 is readily withdrawn. It will be noted that the shoe 46 rests on the pedestal cap 33, and to be removed it must first be brought over the end of said cap. This has been provided for by the incline 49, which latter gives the shoe a little side play, said play being taken up by the straight face of the pedestal horn against which the shoe fits. The side play is sufficient to allow the shoe to be tilted to clear the end of the cap 33. The pedestal cap is next slipped off the truss rod, and the truck frame is jacked up until the journal box is free, after which the wheels may be rolled out.

To completely remove the truss rod 30, the same operation hereinbefore described is carried out, and continued by unscrewing the turnbuckle 40 from the other end of the rod, removing the nuts 39 at said end and then passing the inner ends of the rod sections by each other and drawing them from the pedestal horns, the holes 31 in the pedestal horns 21 through which the rod passes, being large enough to permit a sufficient sidewise tilt at the turnbuckle ends for said ends to pass each other.

By the arrangement of the truss rods 30, the turnbuckles 40 and the removable pedestal horns 22, the latter are double locked and it is impossible for said horns to work loose and drop off, the distance between the inner ends of the rod sections not being sufficient to allow both sections to enter the turnbuckle at the same time far enough for the outer end of either section to clear the horn, even though the nuts 39 should be off. The horn would still be held up by the truss rod and supported in vertical position by the tenon 27. Thus, the possibility of loss of the pedestal horns is entirely overcome. The transom, side frames and equalizers, being each in one piece, are stronger and safer than if built up of a number of parts held together by bolts, and as they are cast they are also cheaper. The pedestal structure also enables the truck wheels to be readily adjusted to keep the wheel flanges from wearing against the rails. This adjustment is readily made by the simple process of shimming up and dressing off the proper pedestal shoe, thus making the wheels run true to the tread. Ordinarily, this cannot be done except at a great expense and with much trouble as the work must be done on the pedestal horns which become badly worn, whereas in the present truck the work is done on the shoes, leaving the same always in a perfect condition.

I claim:

1. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame and an opposite horn which is removably connected to the side frame, said frame having a bottom mortise and the removable horn having a top tenon seating in the mortise, a fastening passing through the tenon and the mortised portion of the side frame, a pedestal cap between the lower ends of the integral and the removable horns, and a fastening passing through said cap and horns.

2. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, said side frame having a bottom mortise and the removable horn having a top tenon seating in the mortise, a fastening passing through the tenon and the mortised portion of the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, and nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns.

3. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, said side frame having a bottom mortise and the removable horn having a top tenon seating in the mortise, a fastening passing through the tenon and the mortised portion of the side frame, a pedestal cap between the lower ends of the in-

tegral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns, and abutments on the rod sections engaging the back of the integral pedestal horns.

4. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, said side frame having a bottom mortise and the removable horn having a top tenon seating in the mortise, a fastening passing through the tenon and the mortised portion of the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, and nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns, the distance between the inner ends of the rod sections which have the turnbuckle connection being less than the length of the end portions of the rod sections which carry the nuts.

5. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, a fastening for securing the top of the removable horn to the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, and nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns.

6. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, a fastening for securing the top of the removable horn to the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns, and abutments on the rod sections engaging the back of the integral pedestal horns.

7. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, a fastening for securing the top of the removable horn to the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, and nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns, the distance between the inner ends of the rod sections which have the turnbuckle connection being less than the length of the end portions of the rod sections which carry the nuts.

8. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, said side frame having a bottom mortise and the removable horn having a top tenon seating in the mortise, a fastening passing through the tenon and the mortised portion of the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns, and safety hangers extending beneath the truss rod.

9. A truck side frame having pedestals at its ends, each pedestal comprising a horn which is integral with the side frame, and an opposite horn which is removably connected to the side frame, a fastening for securing the top of the removable horn to the side frame, a pedestal cap between the lower ends of the integral and the removable horns, a truss rod passing through the horns and the caps of the respective pedestals, said rod being divided and its respective sections having a turnbuckle connection, nuts on the outer ends of the rod sections, said nuts engaging the back of the removable pedestal horns, and safety hangers extending beneath the truss rod.

10. A truck side frame having pedestals at its ends, each pedestal having a horn which is integral with the side frame and an opposite horn which is removably connected to the side frame, a fastening for securing the top of the removable horn to the side frame, said side frame having a depending part to which the removable horn is connected, and said depending part having an inclined inner face, a pedestal cap between the lower ends of the integral and the removable horns, and a shoe on the inner face of the removable horn, said shoe resting at its lower

end on the pedestal cap and having a top tongue which is opposite the aforesaid inclined inner face of the side frame depending part.

11. A truck comprising side frames, a transom secured to the side frames and having forwardly and rearwardly extending wings at its ends, the side frames seating on top of the transom ends and the wings, fastening means passing through the side frames, and the transom ends and the wings thereof, equalizers, and safety hangers carried by the wings and extending beneath the equalizers.

12. A truck comprising side frames, a transom secured at its ends to the side frames, equalizers, and safety hangers carried by the transom and extending beneath the equalizers.

13. A truck comprising side frames, a transom secured at its ends to the side frames, equalizers, and safety hangers carried by the transom and extending beneath the equalizers, said transom having brake hanger supporting means.

14. A truck comprising side frames, a transom secured to the side frames and having forwardly and rearwardly extending wings at its ends provided with means for supporting brake hangers, the side frames seating on top of the transom ends and the wings, fastening means passing through the side frames, and the transom ends and the wings thereof, equalizers, and safety hangers carried by the wings and extending beneath the equalizers.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. BUSH.

Witnesses:
E. D. MATTINSON,
E. E. SANZE.