

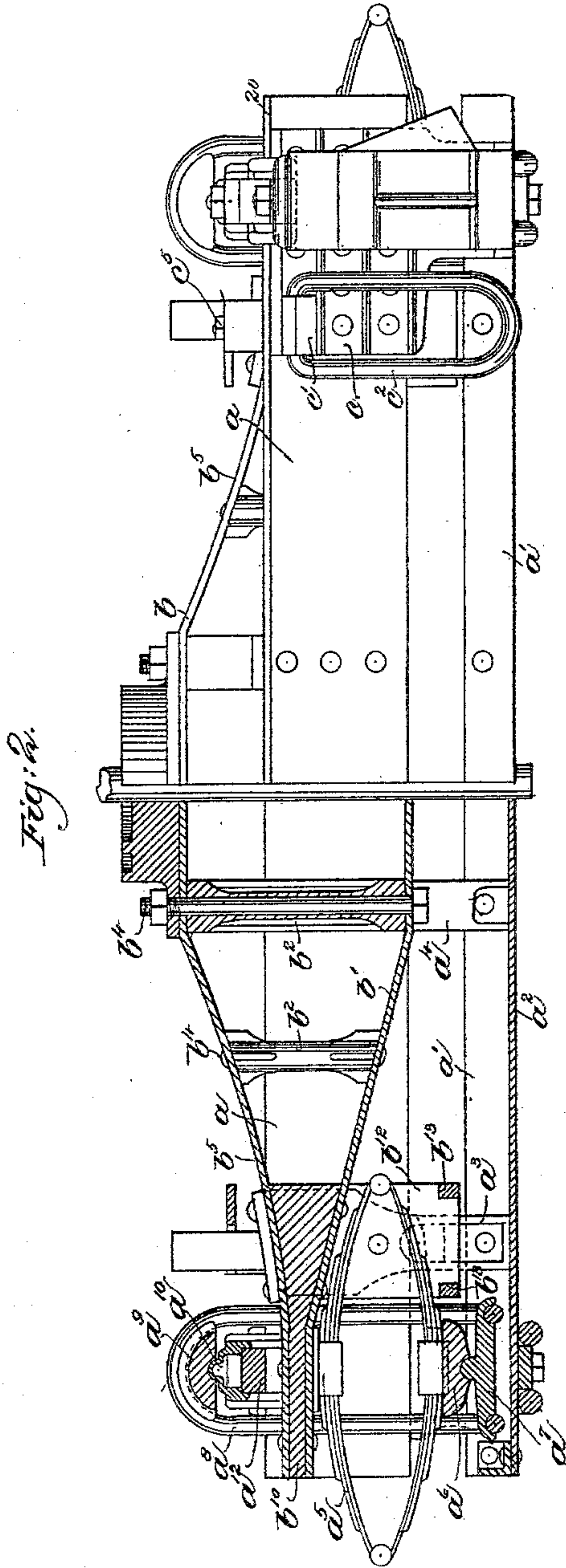
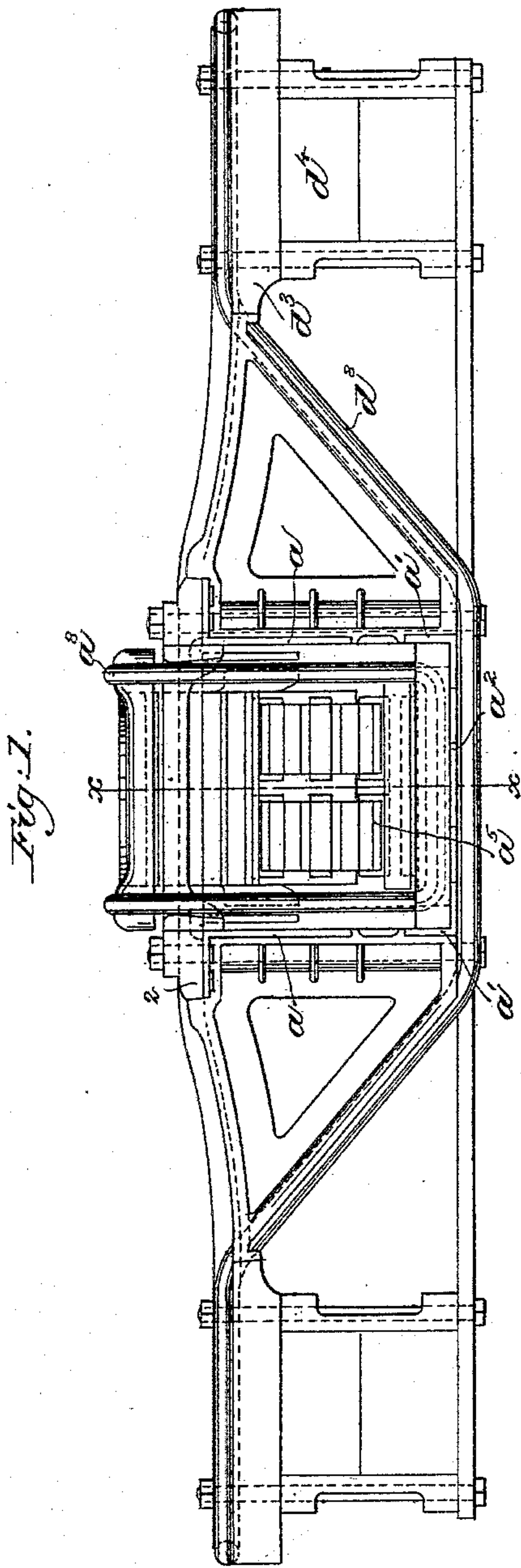
(No Model.)

2 Sheets—Sheet 1.

L. K. JEWETT.
CAR TRUCK.

No. 401,354.

Patented Apr. 16, 1889.



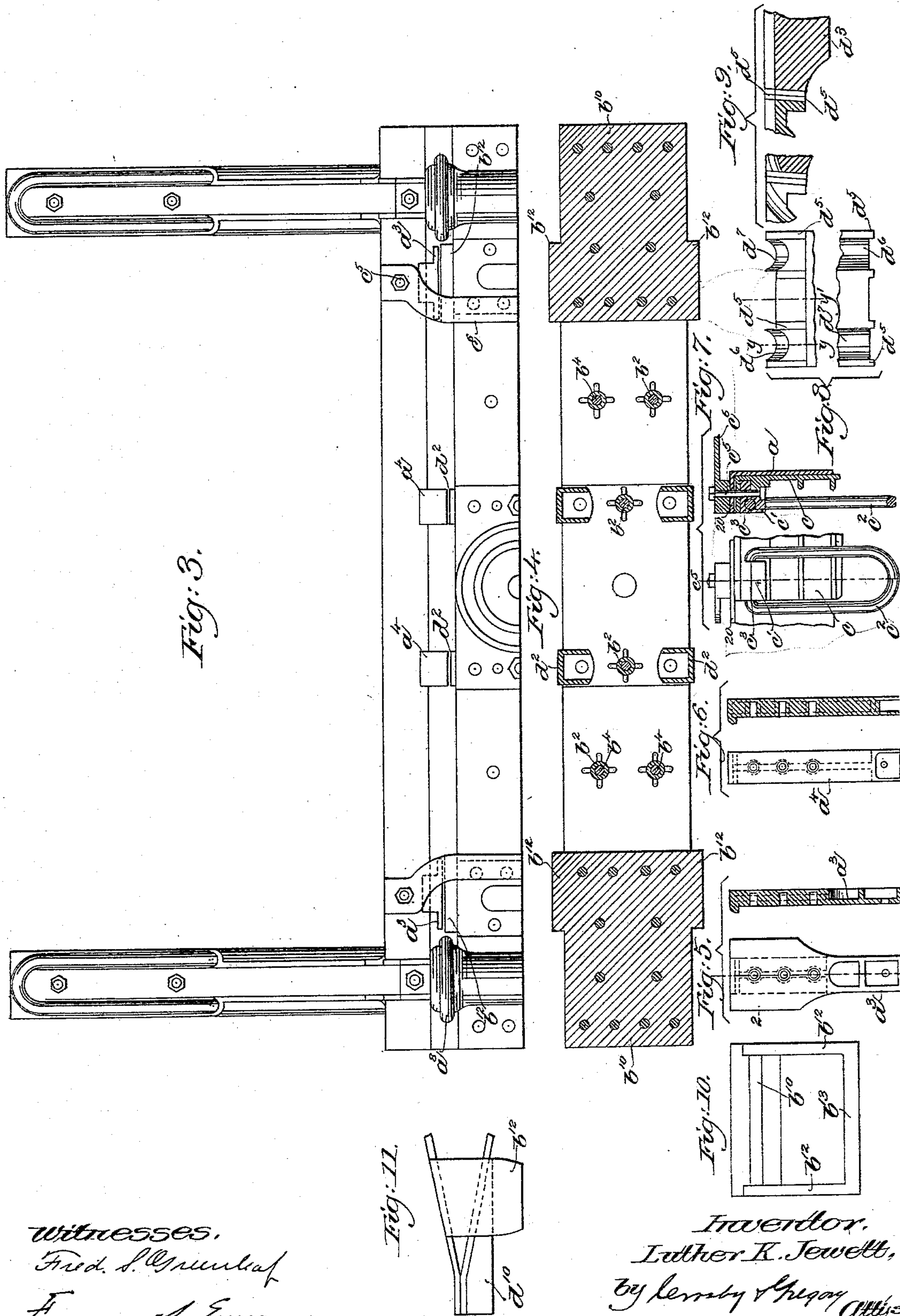
Witnesses.
Fred. S. Greenleaf
Frederick L. Emery.

*Faverston.
Luther K. Jewett,
by Henry & Gregory Attys.*

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Witnesses,
Fred. S. Gumbel
Frank L. Emery.

Inventor,
Luther K. Jewett,
by Lemmy Mayoy (Att'y.)

UNITED STATES PATENT OFFICE.

LUTHER K. JEWETT, OF BOSTON, MASSACHUSETTS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 401,354, dated April 16, 1889.

Application filed October 12, 1888. Serial No. 287,925. (No model.)

To all whom it may concern:

Be it known that I, LUTHER K. JEWETT, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Freight-Car Trucks, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention relates to car-trucks of that class in which a metallic bolster and transom are employed, and which are especially adapted to be used on freight-cars.

My invention is an improvement upon the car-truck shown and described in United States Patent No. 361,846, dated April 26, 1887, and has for its object to provide a stronger and more durable, lighter, and cheaper truck.

Car-trucks employed on freight-cars are required to be of a standard height, which is much less than that of the trucks used on passenger-cars.

This invention has for one of its objects to provide a novel bolster, constructed, as will be described, to obtain increased strength and yet leave in the transom ample space for the bolster-supporting springs to permit the said bolster to rock or swing.

Another feature of my invention consists in a novel construction of the arch-bar-sustaining blocks, whereby the cross braces or arms are secured to the top of the transom, so that a clear space is left for the free motion of the brake-head to which the brake-shoe is attached, and yet bring the wheel-base within the standard or requirement of the railroad corporations.

Still another feature of my invention consists in providing the truck with chafe-irons to obviate wear upon the bolster and transom, and at the same time separate the bolster from the transom sufficiently to permit the bolster-sustaining links to swing or oscillate in any direction without wear, thus prolonging the life of the said parts.

My invention also consists in a novel manner of hanging the brake mechanism, whereby a stronger support is obtained.

Other features of my invention will be pointed out in the claims at the end of this specification.

Figure 1 is a side elevation of a car-truck embodying my invention, the car-wheels be-

ing omitted. Fig. 2 is a partial end elevation and longitudinal section of the car-truck shown in Fig. 1, the section being taken on line $x x$; Fig. 3, a top or plan view of one half the truck shown in Fig. 1; Fig. 4, a longitudinal horizontal section of the bolster; Figs. 5 and 6, details of the chafe-irons; Fig. 7, details in front and side elevation of the brake-hanging mechanism; Figs. 8 and 9, details to be referred to, Fig. 9 showing sections on line $y y$ and $y' y'$, Fig. 8; and Figs. 10 and 11, modifications to be referred to.

The metallic transom composed, as herein shown, of sides a , corner-pieces a' , and bottom piece a^2 , united together by angle-irons $a^3 a^4$, constituting my improved chafe-irons, as will be described, is substantially such as shown and described in another application of even date filed by me.

The metallic transom has located within it at its opposite ends springs a^5 , herein shown as elliptical in form, to support the bolster to be hereinafter described, the said springs resting upon seats a^6 , supported by the bar a^7 , sustained by the link a^8 , passed about the rocker a^9 , adapted to rock on the saddle-bar a^{10} , supported by the arch-bar a^{12} , substantially as in the patent referred to. The bolster, herein shown as of substantially diamond form, (see Fig. 2,) is composed of a top, b , and bottom b' , of metal sheets or plates separated by posts or studs b^2 , which increase in length from the ends of the bolster toward its center, to form a substantially deep bolster to thereby gain in strength, the said parts being united together by suitable bolts, b^4 , extended through the said studs. The bolster is strengthened at its opposite ends, as shown in Fig. 2, by castings b^{10} , inserted between the top and bottom plates, $b b'$, the said parts being riveted or bolted together. Each casting has preferably cast integral with it on its opposite sides chafe-irons b^{12} , (see Figs. 4 and 10,) the said chafe-irons being tied by the cross-piece b^{13} . The ends of the bottom plate, b' , incline upward from the center, thus affording ample room for the bolster-sustaining springs a^5 , seat a^6 , bar a^7 , and links a^8 above the bottom of the transom, to permit the bolster to swing and yet bring the truck within the standard height required. The top or upper side, b , of the bolster on opposite sides of the center

is concaved or curved downward toward its ends, as at b^5 , whereby the said bolster has imparted to it additional strength, to enable it to withstand excessive loads at the center, the concaved form preventing upward buckling of the bolster. Each arch-bar-sustaining block is provided at its top or upper end with an arm, c , over which the upper edge, 20, of the sides a of the transom is bent or flanged, as shown in Figs. 2 and 7. By this construction a clear space is left below the arm c , between it and the bottom of the transom, as clearly shown in Fig. 2, to afford a free motion or clearance for the brake-head, (not herein shown, but to which the brake-shoe is attached, as in ordinary construction,) without changing the wheel-base beyond the standard required.

The arm c has preferably cast integral with it a lug, c' , provided with a groove (see Fig. 7) to receive the link c^2 , sustaining the brake-head referred to. The link c^2 is locked on the lug c' by a locking device, herein shown as a cap, c^3 , provided with a groove to embrace the upper half of the link c^2 , the said cap being slipped into place between the lug c' and the flange c^4 on the arm c , and secured in position by bolt c^5 , which is extended upward through the flanges on the arm and transom and through a cross-bar, c^6 , acting to tie the sides of the transom.

The angle-irons a^3 , preferably cast in one piece, are secured to the transom near its opposite ends, and each angle-iron is preferably widened at its upper end, as at 2, (see Fig. 5,) to form a chafe-iron, which co-operates with the chafe-irons b^{12} , (see Fig. 3,) to obviate wear upon the bolster and transom, and at the same time separate the bolster from the transom sufficiently to afford free oscillation in any direction of the bolster-sustaining links, and consequently obviating wear upon the said links.

The angle-irons a^4 co-operate with chafe-irons d^2 to prevent wear of the bolster and transom at or near their centers when canted or tipped under excessive loads, the chafe-irons a^4 d^2 being normally separated by space, as shown in Fig. 3.

To obtain a perfect fit between the abutting ends of the clip d^3 , supported by the housing d^4 , and the end of the arch-bar-sustaining block, the said clip and block are cast with projecting ribs d^5 , (see Figs. 8 and 9,) which, when the parts are fitted together, abut against each other and leave spaces d^6 d^7 on opposite sides of the arch-bar for the passage of the loops of the truss d^8 , supporting the arch-bar-sustaining blocks.

In practice the ribs d^5 may be readily trimmed off or fitted with comparatively little loss of metal and in a minimum amount of time.

I have herein shown the bolster supported by elliptical springs; but instead thereof I

may employ spiral springs. If desired, the top and bottom plates of the bolster may be brought together, as shown in Fig. 11, in which case a block or casting, d^{10} , is secured to the under side of the bottom plate to form a level top plate or rest for the springs, the chafe-irons b^{12} forming part of the said block or casting.

I claim—

1. In a car-truck, the combination, with a transom, of a metallic bolster composed of top and bottom separated by posts or studs, the said top being concaved or curved downward on opposite sides of the bolster center to prevent upward buckling of the bolster under excessive loads, substantially as described.

2. In a car-truck, the combination, with a metallic transom having independent sides a , of arch-bar-sustaining blocks having each an arm, c , secured to the said sides to leave free space between the said arms and the bottom of the transom, substantially as and for the purpose specified.

3. In a car-truck, the combination, with a metallic transom having independent sides a , of arch-bar-sustaining blocks having each an arm, c , and provided with a lug, c' , to support a link, as c^2 , and a lock to secure said link on said lug, substantially as described.

4. In a car-truck, a metallic transom and a metallic bolster adapted to swing in said transom, and composed of a top plate, b , and bottom plate, b' , combined with castings b^{10} , inserted between the said plates at their opposite ends and secured thereto and provided with chafe-irons, forming an integral part of the said castings, substantially as and for the purpose specified.

5. In a car-truck, a metallic transom and a bolster vertically movable in said transom, arch-bar-sustaining blocks secured to said transom and provided with projections or ribs, combined with clips having ribs or projections to co-operate with the ribs or projections on the arch-bar-sustaining blocks, substantially as and for the purpose specified.

6. In a car-truck, a metallic transom and a metallic bolster adapted to swing in said transom, and composed of a top plate, b , and bottom plate, b' , combined with castings b^{10} , inserted between the said plates at their opposite ends, and secured thereto and provided with chafe-irons, forming an integral part of the said castings, and tie-bars to join the chafe-irons of the said castings, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

LUTHER K. JEWETT.

Witnesses:

JAS. H. CHURCHILL,
M. RAY.