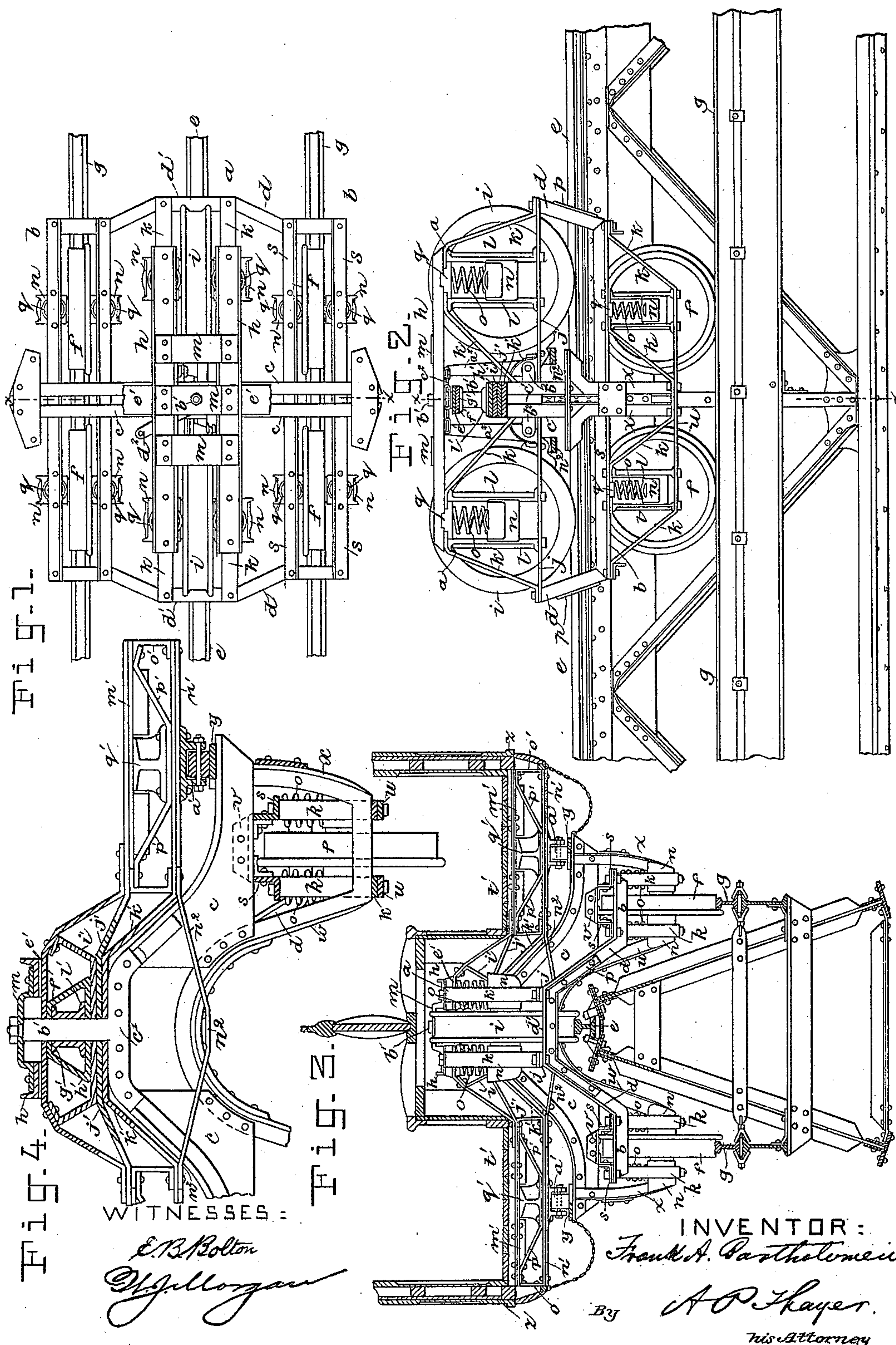


(No Model.)

F. A. BARTHOLOMEW.
CAR TRUCK FOR CENTER RAILS.

No. 440,126.

Patented Nov. 11, 1890.



UNITED STATES PATENT OFFICE.

FRANK A. BARTHOLOMEW, OF BOSTON, MASSACHUSETTS.

CAR-TRUCK FOR CENTER RAILS.

SPECIFICATION forming part of Letters Patent No. 440,126, dated November 11, 1890.

Application filed April 11, 1890. Serial No. 347,467. (No model.)

To all whom it may concern:

Be it known that I, FRANK A. BARTHOLOMEW, a citizen of the United States, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Trucks for Center-Rail Elevated Roads, of which the following is a specification.

The invention relates to trucks for central-rail or so-called "single-rail" elevated rail-roads in which the weight of the rolling-stock is supported by central wheels upon a single rail in the apex of the structure and balanced and guarded against derailment by side wheels running upon the rails, one at each side of and at a lower elevation than that of the said single rail, one example of which trucks is represented in the patent to me dated May 25, 1886, No. 342,673.

The present invention consists of certain further and additional improvements in the construction and arrangement of the details pertaining to said truck, and more particularly in the contrivance of the same with two guard-wheels on each side instead of one, as heretofore, for greater lateral strength and stability, and especially for better action in guiding the truck on curves, all as hereinafter fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a plan view of my improved truck and portions of the center and side rails on which it runs, with the beam for the car-platform broken off. Fig. 2 is a side elevation of the truck with a part in section and a short section of the rail structure. Fig. 3 is an end elevation of the truck and transverse section of the rail structure and of part of a car-body carried by the truck. Fig. 4 is a transverse section of the truck on line *x x*, Figs. 1 and 2, and shows the truss-beam on which the car-body is mounted, partly in side view and partly in section, and on an enlarged scale.

The truck-frame consists, essentially, of three longitudinal parallel pedestal-carrying sub-frames *a b b*, each having pedestals for two wheels in line and connected together by the central transverse bridge-bracket *c* and the end bridge-bars *d*, the middle pedestal-frame being in a higher plane than the others and mounted on the central wheels *i*, running

on the center rail *e* to carry the weight, and the side frames being mounted on the guard-wheels *f*, running on the lower guard-rails *g* and being mainly to balance the car, said bridge-bracket and bridge-bars being suitably arched in the middle to span the middle upper rail and connect the upper, middle, and lower side frames across the rail.

The main pedestal-frame consists of the upper parallel longitudinal channel-bars *h*, lower longitudinal parallel flat bars *j*, stays *k*, and pedestal-posts *l*, connecting the upper and lower bars *h* and *j*, the short plates *m*, connecting the channel-bars, and the upper middle sections *d'* of the bridge-bars *d*, connecting the lower flat bars at the end, said parallel upper channel and lower flat bars being located the required distance apart for receiving the wheels *i* between them and for carrying the axle-boxes *n* between the pedestal-posts on each side of the wheels.

The top bars *h* of each pedestal-frame *a*, being connected together between the wheels by their short plates *m*, affording ample strength therefor, extend only to the extremities of the pedestals; but the lower bars *j* extend beyond the wheels, and are there connected together by the upper middle sections *d'* of the bridge-bars *d* passing directly in front of the wheels and connecting all the frames at the ends. These middle sections *d'* of the end bridge-bars are re-enforced by the angle-plates *p* riveted onto them. The usual car-springs *o* are arranged in the pedestals between the axle-boxes and the top bars *h* and with the usual bearing-caps *q*. The lower pedestal-frames consist of about the same construction, except that the upper bars *s* are made of angle-iron and are nearly the length of bars *j*, so as to connect with the lower sections of bridge-bars *d*, while the lower bars *u* extend only to the extremities of the pedestals *l*, which are not as far apart as the pedestals of the upper wheels. Similar stays *k* are employed between the upper and lower bars of these frames, and like boxes *n*, springs *o*, and bearing-caps *q* are employed for mounting the frames on the wheels. The upper bars *s* of these lower pedestal-frames are connected at the middle of the top with the bridge-bracket *c* by the angle-plates at *v*. The lower bars *u* are connected to said bracket

by the angle-bar yokes w , attached at the bow to the lower edges of the web-plates of the bracket c , and extended below said bracket and attached to said bars u , respectively, and
 5 thence extended at x up to and connected with the outer extremities of bracket c . At the upperside of the extremities of the bracket it carries the bearing-plates y , whereon the car-body z has its lateral support to balance
 10 it on the truck-pivot, and on which the body traverses as the one or the other turns on the pivot. The body is in this example provided with the rollers a' for diminishing the friction.

15 The bridge-bracket c carries the pivot b' , on which the truck and body turn relatively to each other. It is secured between the upper bars of the bracket c at the middle by its branched lower end c' , riveted together with
 20 said bars, and on this pivot the body is mounted by the truss-beam, consisting of the middle arched section composed of upper plates $e' f'$, fitted on the pivot above collar g' , and lower plates h', i', j' , and k' , fitted on
 25 said pivot below collar l' and above the top of the bridge-bracket. The other members of said beam, consisting of the horizontal extremities, are composed of the upper and lower parallel plates $m' n'$, vertical end pieces o' ,
 30 and braces p' , and are connected to the longitudinal beams q' of the bed-frame of the car-body. The plate n' has a branched middle section n^2 surrounding the arched middle section of the bridge-bracket c under bars j' .
 35 The floor t' of the car-body is supported directly over these horizontal extremities of the truss-beam, and the seats are arranged over the arched middle section of the beam and of the bridge-bracket, which extends above
 40 the floor into the vacant space produced for them under the seats. The pivot b' extends at the upper end through the middle top plate m , connecting the channel-bars of the main pedestal-frame together.

45 The brake-levers a^2 are pivoted in the lugs b' to the bridge-bracket c and extend upward therefrom in the vertical plane of the wheels to the height of the angle-bars h or thereabout, and are connected by links c^2
 50 with the brake-lever d^2 for working them, said lever being fitted on the pivot b' for being turned to operate the brakes; but this arrangement of the brake is the same as in my former patent referred to, and is not claimed
 55 herein.

The rail-supporting truss, which is represented to some extent in the drawings, is the subject of a separate application for a patent, and is only shown herein for better illustration of the purposes of the truck.
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What I claim, and desire to secure by Letters Patent, is—

1. The combination, in a truck-frame, of the upper middle longitudinal pedestal-frame,
 65 lower side longitudinal pedestal-frames, each having pedestals for two wheels in line,

bridge-bracket connecting said frames at the middle, and the bridge-bars connecting said pedestal-frames at the ends, substantially as described. 70

2. The combination, in a truck-frame, of the upper middle longitudinal pedestal-frame, lower side longitudinal pedestal-frames, each having pedestals for two wheels in line, bridge-bracket connecting said frames at the
 75 middle, and the bridge-bars having the upwardly-extended middle section and connecting the frames at the ends of the upper longitudinal bars of the lower pedestal-frames and the ends of the lower longitudinal bars of
 80 the upper middle pedestal-frames, substantially as described.

3. The combination, in a truck-frame, of the upper middle longitudinal pedestal-frame, lower side longitudinal pedestal-frames, each
 85 having pedestals for two wheels in line, end bridge-bars connecting the frames at the ends, and the bridge-bracket connecting the frames at the middle by the ends of said bracket attached to the longitudinal bars of
 90 the lower pedestal-frame and by the pivot mounted in the top of said bracket and connected with the cross-plate on the top of the upper pedestal-frame, substantially as described. 95

4. The combination, with the upper and lower pedestal-frames, each having pedestals for two wheels in line, of the bridge-bracket connected to the upper pedestal-frame by the pivot for the car-body and with the lower
 100 pedestal-frames by the angle-plates at the top of said frames and by the yoke extending down to and attached to the lower bars of said frames and up to and connected to the extremities of the angle-bracket, said pedestal-frames being connected at the ends by
 105 the bridge-bars, substantially as described.

5. The combination, with the truck having upper, middle, and lower side pedestal-frames, each having pedestals for two wheels
 110 in line, the bridge-bracket, and pivot, of the truss-beam having the arched middle section, consisting of upper plates fitted on the upper collar of the pivot and lower plates fitted on said pivot at the top of the bridge-
 115 bracket, substantially as described.

6. The combination, with the truck having upper, middle, and lower side pedestal-frames, each having pedestals for two wheels in line, and the bridge-bracket and pivot, of
 120 the truss-beam having the arched middle section fitted on the pivot and the horizontal extremities supporting the bed-frames of the car, substantially as described.

In testimony that I claim the foregoing as
 125 my invention I have signed my name, in presence of two witnesses, this 1st day of April, 1890.

FRANK A. BARTHOLOMEW.

Witnesses:

W. J. MORGAN,

W. B. EARLL.