

(No Model.)

2 Sheets—Sheet 1.

F. A. BARTHOLOMEW.

CAR TRUCK FOR ELEVATED RAILWAYS.

No. 342,673.

Patented May 25, 1886.

Fig. 1

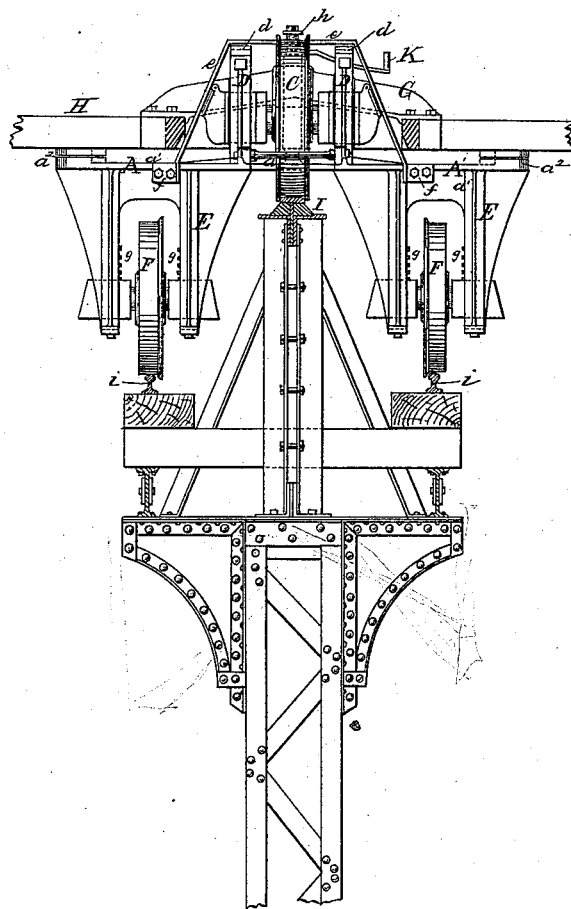


Fig. 2

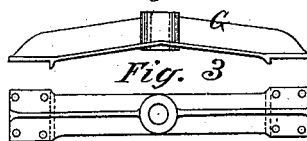
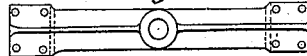


Fig. 3



Witnesses:

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UNITED STATES PATENT OFFICE.

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CAR-TRUCK FOR ELEVATED RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 342,673, dated May 25, 1886.

Application filed April 5, 1886. Serial No. 197,829. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. BARTHOLOMEW, a citizen of the United States, and a resident of Bloomfield, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Trucks for Single-Rail Elevated Railroads, of which the following is a specification.

The invention relates to trucks for central-rail or so-called "single-rail" elevated railroads, 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 two rails, one at each side of and at a lower elevation than that of the said central single rail.

An improved and pivoted car-truck adapted for such railroads, according to a former invention by me, is described in Patent No. 336,983, dated March 2, 1886.

The present invention consists in certain improvements in the construction and arrangement of details pertaining to the said truck, as will be hereinafter fully described, and specifically pointed out in the claims.

In the accompanying two sheets of drawings, Figure 1 represents a front or end view of my improved truck in position upon a central-rail elevated-railroad structure, a portion of the bottom of the car being shown in section and resting in position upon the truck-frame. Figs. 2 and 3 are detail side view and top view, respectively, of a bridge-bracket secured to the car-body, and by which the car is supported upon and pivoted to the truck. Fig. 4 is a side elevation of the truck and of a portion of the railroad structure, a part of the car-bottom, as well as the supporting bridge-bracket and the interposed spring being shown upon the truck in central section. Fig. 5 is a top or plan view of the truck, car-bottom, and railroad structure, partly broken out.

The truck-frame is made of two parts, A A', bolted together in the center, as shown in Fig. 5, (to clamp between them the pivot B, by which the truck is connected to the car,) and connected at the ends by brace-bolts *a*, so as to leave a suitable opening in front and rear

for mounting the central sustaining-wheels, C. These wheels have broad faces and a flange at each side thereof, adapting them to run in proper position upon the central rail at the apex of the structure, as shown in Fig. 1, and are journaled in ordinary axle-boxes, and fitted to slide in vertical guides in brackets D, projecting upward from the truck-frame. The front and rear brackets, D D, at each side of the truck are connected and braced together by a tie-rod, *d*, bolted to the top of each bracket, and between the same and each journal-box is interposed a spiral or other spring, *b*, to give an elastic support to the truck and the weight sustained thereon, and enable the truck to ride easy and without imparting any jarring movement to the car. Crosswise of the truck its parts A A' are further braced and connected by a central bar, *c*, bolted at its ends to the said tie-bars *d*, and also by brace-bars *e*, which, like the bar *c*, are bolted to the said tie-bars *d*, and extend laterally downward from them to the edges of the lateral extensions *a'* of the car-frame, to which they are bolted through flanges *f* at their lower ends. From the lateral extensions *a'*, midway between the axles of the wheels C, project downward oppositely-placed brackets E, in which are journaled in sliding axle-boxes the auxiliary or balancing wheels F. The faces of these wheels are like those of ordinary railroad-cars, having a flange on one side only and run upon the lower rails at the side of the central rail of the structure. The axle-boxes of these wheels are also provided with suitable car-springs, *g*, which, however, are weaker than the springs *b*, the object of the wheels F not being to sustain the weight of the truck and car, which is wholly supported by the upper or sustaining wheels, C, and the springs *b*, but simply to balance the car upon the central rail, help to prevent derailment, and, in the case of a fracture or other damage to the center rail, to retain the car in upright position upon the side rails. Every car is supported at either end upon a truck constructed as just described, being pivoted upon the said pivot-pin B, and steadied laterally by ordinary segmental rubbing-pieces *a''* on the upper surface of the lateral extension *a'* of the

truck-frame in like manner as an ordinary fifth-wheel for a wagon. The pivotal connection between the car and the truck is formed by a strong bracket, G, bridging an opening in the car-bottom H, through which the sustaining-wheels C and their boxes, brackets, and braces project above the car-bottom, as shown in Figs. 1 and 4. The said bridging-bracket G, preferably constructed as shown in Figs. 2 and 3, is bolted with its end flanges to the car-bottom H, and is provided at its center with a hub and a vertical bore through the said hub, by which it fits to turn freely upon the pivot B. A strong spring, S, of any suitable construction—preferably of rubber strengthened by circumferential iron bands, as shown in Fig. 4—is interposed around the pivot between a flange around the lower end of the said pivot and the under side of the aforesaid hub of the bridge-bracket G, and upon the said spring S is sustained the entire weight of that part of the car and its load intended to be carried on one truck.

I is the central rail of the apex, and *i* the side rails at the base of the structure. The upper end of the pivot-pin B is turned off, to reduce its diameter and form a shoulder, and upon the said reduced portion *h* is fitted to turn the hub *k* of a brake-lever, K, which hub has laterally-opposite lugs, by which and pivotal links *l* it is connected to the upper end of brake-blocks or brake-shoes M, whose lower ends are hinged or pivoted to lugs *m* upon the adjoining flanges N, by which the parts A A' of the truck-frame are bolted together around the pivot-pin. The brake-shoes M are arranged, as shown in the drawings, so as to be readily thrown in or out of contact with the central sustaining-wheels, C, when required, by simply operating the brake-lever K.

From the foregoing it will be observed that the construction is strong, simple, neat, and compact; also, that the bottom of the car is below the central sustaining-wheels, C, and by increasing the height of the bridge-bracket G may, if desired, be brought down nearly flush with the rail at the apex of the structure, thereby insuring increased steadiness.

Having thus described the invention and the manner of its operation, I claim as new in a truck for railroads having an elevated central rail and lower side rails—

1. In a truck provided with two sustaining-wheels and two balancing-wheels arranged as hereinbefore set forth, and a central pivotal attachment to the car, the combination of a truck-frame, of two similar parts, A and A', bolted together in the middle of the truck by

flanges N, the central pivot pin or post, B, clamped and secured by and between the said flanges, the spring S, surrounding the said pin B upon the said frame, the car-body H, having opening to receive the sustaining-wheels, and the bridge-bracket G, having end flanges secured to the said car-body, and centrally a hub bored to receive and turn upon the pin B while resting upon the said spring S, as specified.

2. A truck-frame of two similar parts, A and A', bolted together in the middle by means of flanges N around a central pivot for attachment to the car, and united at the ends by stay-rods *a*, leaving end openings, with sustaining-wheels C mounted therein between upward-projecting brackets D, said truck-frame having also lateral extensions *a'*, with rubbing-pieces *a''*, and downward-projecting brackets E, carrying balancing-wheels F, in combination with tie-bars *d*, connecting the fore-and-aft brackets D at each side of the truck, and cross-braces *e*, secured to the said tie-bars *d*, and secured with their end flanges, *f*, also to the said lateral extensions *a'*, substantially as shown and described.

3. A truck provided with two sustaining-wheels, two balancing-wheels, and a central pivot, all arranged as and for the purpose before stated, in combination with a brake-lever fulcrumed upon the said pivot and connected to actuate brake-shoes or friction-blocks against the faces of the said sustaining-wheels.

4. In a truck provided with two sustaining-wheels, two balancing-wheels, and a central pivot, all arranged as described, the combination of the truck-frame in two parts, A A', provided with the adjoining flanges N, having end lugs, *m*, and clamping between them the said pivot-pin B, the brake-shoes M, hinged at their lower ends to the said lugs *m*, and arranged to act against the said sustaining-wheels, the brake-lever K, fulcrumed by means of its bored hub *k* upon the reduced upper end, *h*, of the pin B, and the links *l*, movably connected at their ends to the upper ends of the said brake-shoes M and to the said brake-lever hub *k*, all substantially as hereinbefore set forth.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 2d day of April, 1886.

FRANCIS A. BARTHOLOMEW.

Witnesses:

A. W. ALMQVIST,
T. M. CROSSMAN.