2 Sheets—Sheet 1.

V. D. BEACH.

RAILWAY CAR-TRUCK.

No. 173,257. Patented Feb. 8, 1876.

Fig. 1.

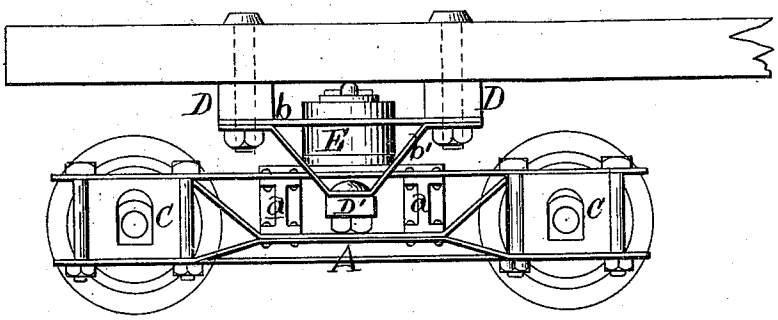
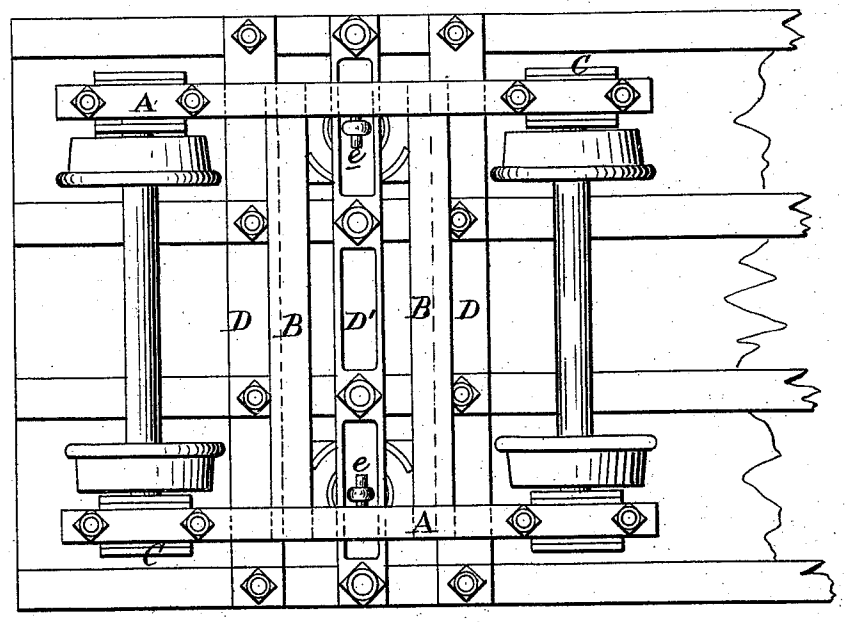


Fig. 2.



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per Attorney
Thos. J. Sprague.

2 Sheets—Sheet 2.

V. D. BEACH.

RAILWAY CAR-TRUCK.

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Fig. 3.

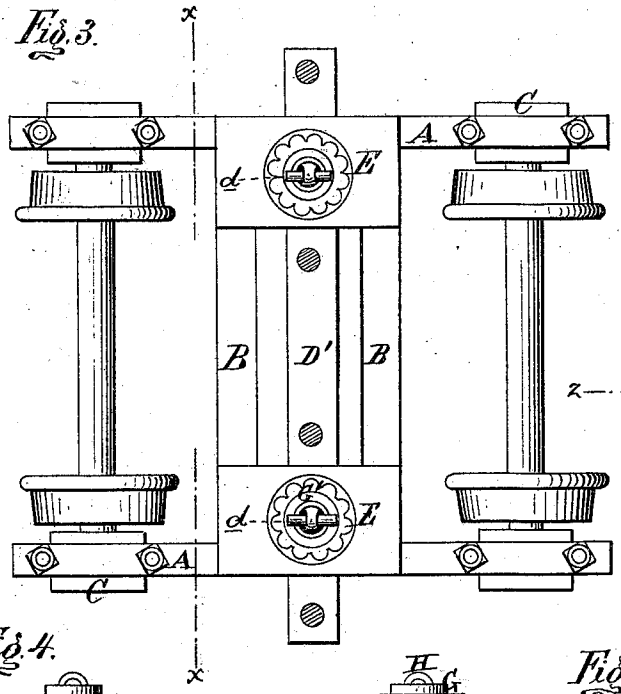


Fig. 6.

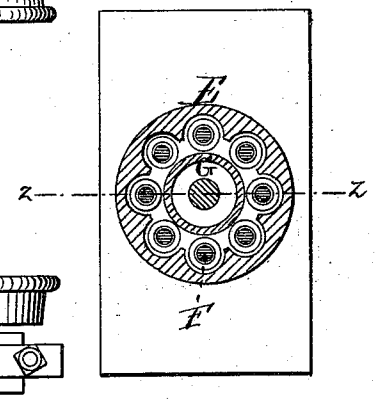


Fig. 4.

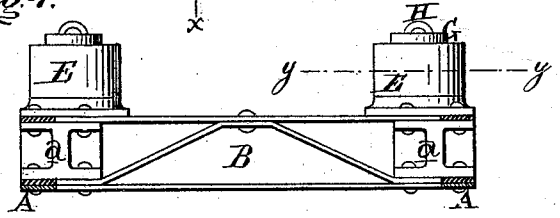


Fig. 7.

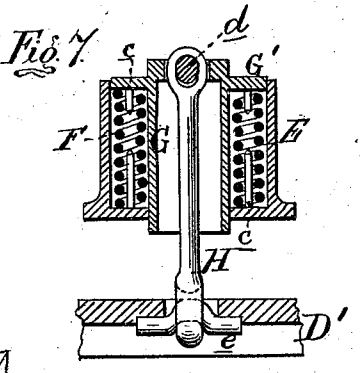


Fig. 5.

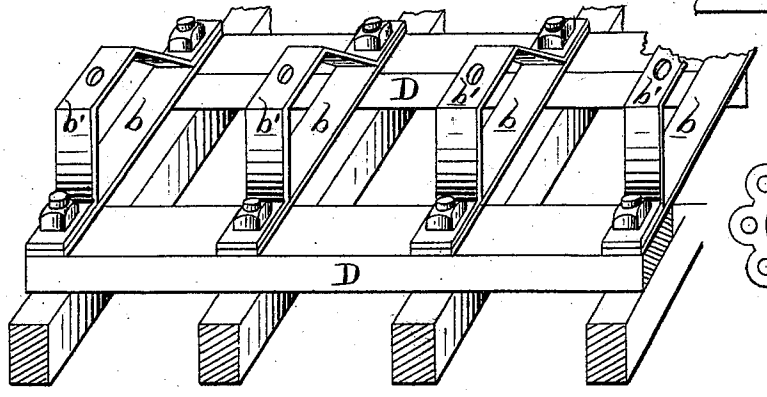
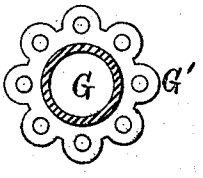


Fig. 8.



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Inventor:
V. D. Beach
per attorney,
Thos. S. Sprague

UNITED STATES PATENT OFFICE.

VERTOT D. BEACH, OF BATTLE CREEK, MICH., ASSIGNOR OF TWO-THIRDS HIS RIGHT TO THOMAS HART AND CHOLETT C. BEACH, OF SAME PLACE.

IMPROVEMENT IN RAILWAY-CAR TRUCKS.

Specification forming part of Letters Patent No. **173,257**, dated February 8, 1876; application filed January 31, 1876.

To all whom it may concern:

Be it known that I, VERTOT D. BEACH, of Battle Creek, in the county of Calhoun and State of Michigan, have invented an Improvement in Railway-Car Trucks, of which the following is a specification:

The object I have in view is the construction of a car-truck in such a manner as to dispense with the center bearing and king-bolt heretofore used for swiveling the truck under the car.

The invention consists, first, in the peculiar construction of the truck-frame proper; secondly, in the peculiar construction of the springs in such a manner that their hangers are free to vibrate or oscillate in any direction; and, thirdly, in a peculiar trussed transom or bolster under the car, and in the manner or method of hanging the car to the springs, as more fully hereinafter set forth.

Figure 1, Sheet 1, is a side elevation of the truck. Fig. 2 is a bottom plan of the same. Fig. 3, Sheet 2, is a plan of the truck proper, showing also the lower member of the trussed transom under the car. Fig. 4 is a sectional elevation, showing the portion of the truck-frame that is at the right of the line *x x* in the last figure. Fig. 5 is a bottom perspective view of the car, showing the trussed transom bolted thereto, with the exception of the lower member of said transom. Fig. 6 is an enlarged horizontal section through the spring-case at *y y* in Fig. 4. Fig. 7 is a vertical section of the same at *z z* in the last figure. Fig. 8 is a plan of the spring-trunk.

In the drawing, A A represent the trussed sides of the truck, connected together by two parallel transverse trussed girts, B B, these trusses being all constructed of flat bar-iron, as seen in Figs. 1 and 4. A ribbed post, *a*, is inserted between the open ends of the girders B, and between the upper and lower members of the trusses A, all of which are riveted to the flanges of the posts. C are the axle-boxes secured between the open ends of the side trusses in the usual manner. In lieu of the single transom or bolster under the car I bolt across the car-bottom two parallel transoms, D D, preferably of wood, and across these at regular intervals about four flat iron tie-bars, *b*, and an equal number of V-braces, *b'*. D' is an iron or steel transom bolted to the bottoms of the V-braces, first, however, being passed through the open space between the upper and lower members of the side trusses, on top of each of which is seated a cylindrical spring-case, E, having a circular opening in its base-plate, around which is arranged a circular row of spiral springs, F, Fig. 7. On top of these springs is seated the flange G' of a cylindrical trunk, G, open at the lower end, which plays drown through the opening in the base-plate of the case. Pins *c c* in the flange and base-plate project into the ends of each spiral spring to keep it in position. The flange of the trunk and the upper end of the case are corrugated, as shown, to prevent the former from turning around, while its vertical play is not interfered with. H is a link or hanger having an eye at each end. Through the eye at the upper end passes a pin, *d*, which rests in a groove across the raised top of the trunk. The lower end of the hanger passes through a slot in the transom D', and a cranked pin, *e*, is passed through its eye, as seen in Fig. 7, whereby the car-body is suspended by said hangers from the top of the spring-case trunk.

The advantages of this method of hanging the car are, first, the truck is free to sway laterally, and to accommodate itself to inequalities in the track, without communicating such motions to the body of the car, or at most to a very small extent, doing away with the concussive gage-motion experienced where the car-body is rigidly swiveled to the truck by a king-bolt and center-bearing; secondly, the single transom being replaced by a trussed structure the latter is not liable to fracture, as frequently occurs where a single transom is employed; thirdly, the bed of the car, being supported at two points over each truck, is not so liable to break as when supported by a single transom.

I do not wish to be confined to the particular form of truck-spring shown, as it is evident that any other style of spring may be used which will permit the hangers to oscillate from or on their top connections.

It is evident also that my construction and improvement above described are applicable as

well to locomotives and tender-trucks as to those for railroad-cars.

What I claim as my invention is—

1. A railroad-car body, suspended centrally in the truck by hangers or links, which in turn are suspended from springs, in order to permit a free movement of the trucks independently of the car-body, and dispense with a king-bolt, substantially as described.

2. The side trusses A A, connected by the transverse trussed girts B B and ribbed posts *a*, constructed and combined to form a rigid truck-frame, substantially as described.

3. The trussed transom D D D′ *b b′*, secured to the car-bed, substantially as described, and suspended by the hangers H H from springs mounted upon the truck-frame, substantially as shown and set forth.

4. The herein-described car-spring, consisting of the case E inclosing a row of spiral springs, F, surmounted by the flanged trunk G G′, substantially as described.

VERTOT D. BEACH.

Witnesses:

H. F. EBERTS,

CHARLES J. HUNT.