

G. DIXON.

Railroad Car-Trucks.

No. 141,859.

Patented August 19, 1873.

Fig 2.

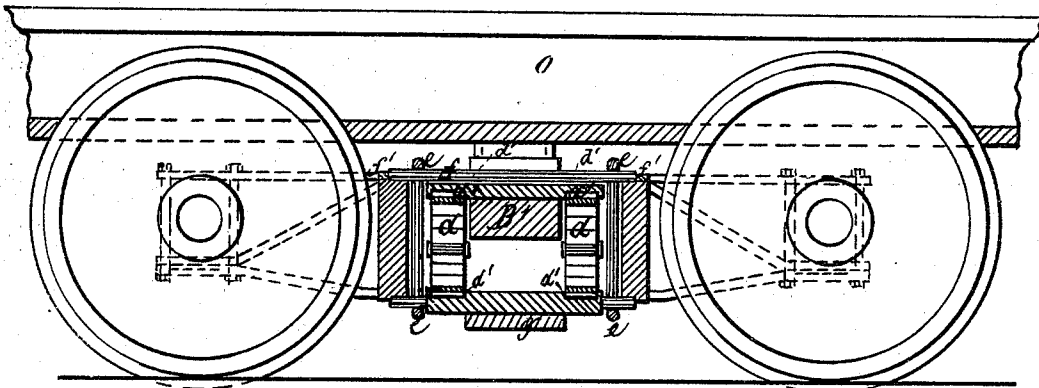
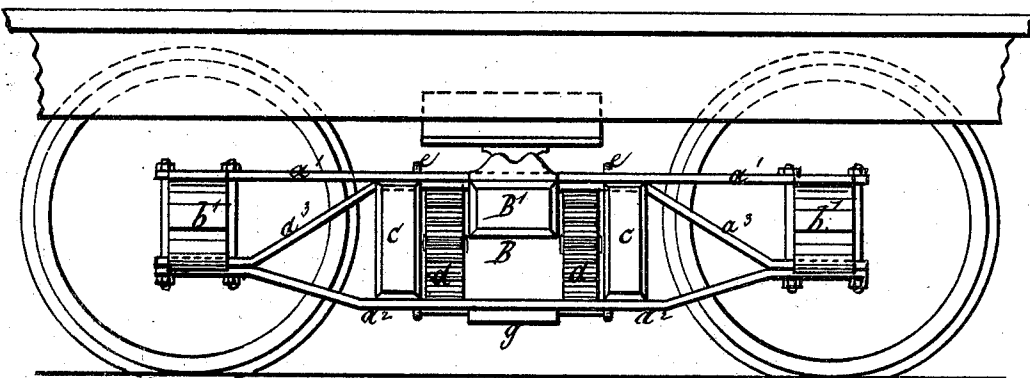


Fig 1.



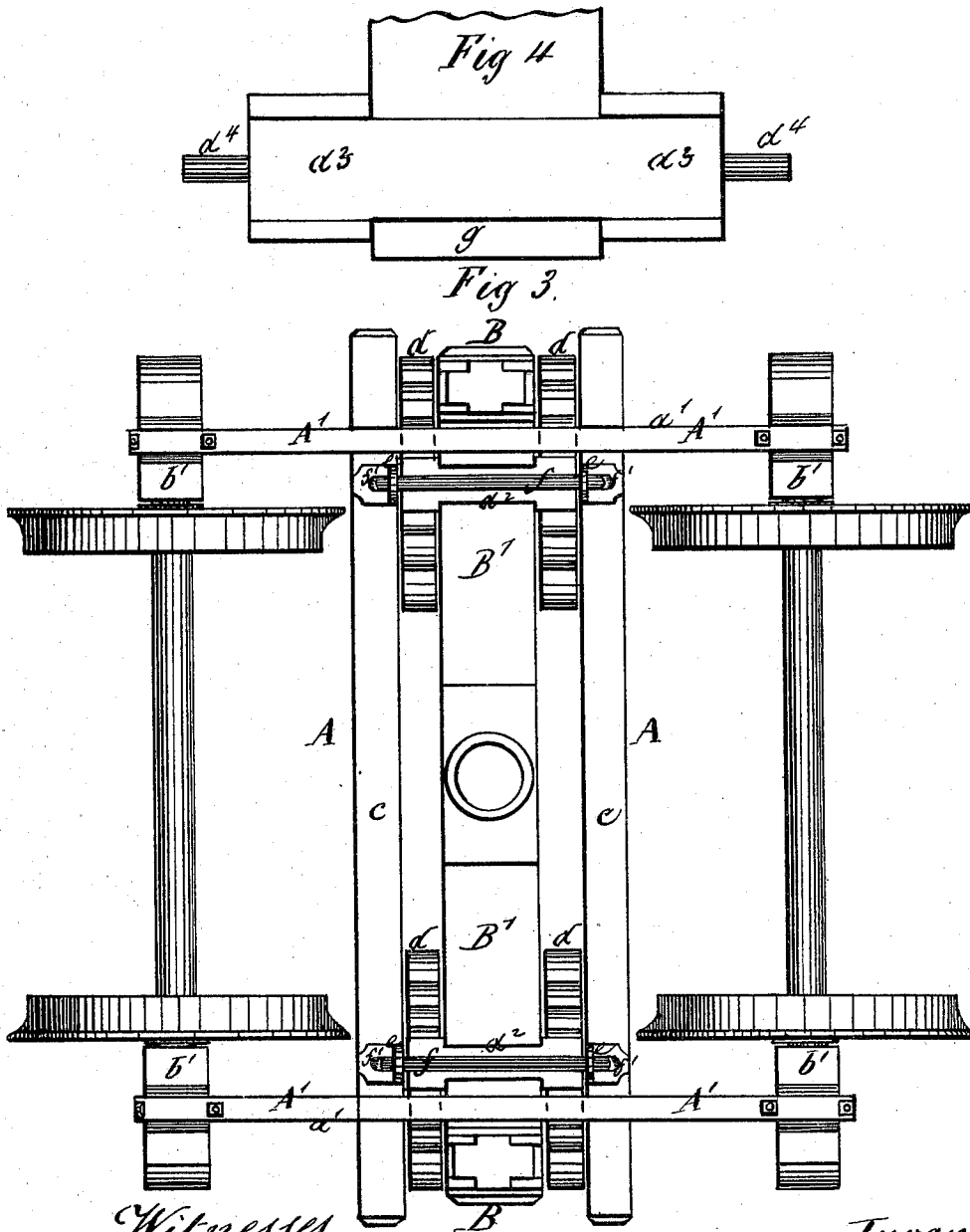
Witnesses
John J. Hollister
A. Lacey

Inventor.
George Dixon
by Colborns Brothers & Co
his attorneys

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UNITED STATES PATENT OFFICE.

GEORGE DIXON, OF TORONTO, CANADA.

IMPROVEMENT IN RAILROAD-CAR TRUCKS.

Specification forming part of Letters Patent No. 141,859, dated August 19, 1873; application filed July 26, 1872.

To all whom it may concern:

Be it known that I, GEORGE DIXON, of the city of Toronto, in the county of York and Province of Ontario, Canada, mechanical engineer, have invented certain Improvements in Railway-Car Trucks, of which the following is a specification:

My invention relates to an improvement in the construction of railway-car trucks, whereby the advantages of a swinging bolster and elliptic springs are secured, while at the same time the center of gravity of the trucks is lowered to an extreme point, limited only by the diameter of the wheels used in the trucks.

According to my invention the truck is constructed of two distinct parts, the one a rigid frame, which supports the other which is elastic and swinging. The rigid frame is formed of two side frames composed of iron bars arranged on the outside of the wheels and supported at the ends by the axle-boxes. One of the bars of the side frames is carried straight across and forms the top, the second forms the under side, while the third is so bent as to connect the two together. The side frames are connected together by means of two cross-beams, between which sufficient space is left to allow of the elastic and swinging frame being placed between them. This elastic frame is composed of a bolster, on the center of the upper surface of which is placed the socket for the pivot or pin of the car to work in. This bolster rests on four elliptic springs, two on each side, carried by links or stirrups hung from bars, which have bearings on and are carried by the cross-beams of the rigid frame. The straps which hold the plates of the elliptic springs together fit into shoes, top and bottom. The top shoes are bolted to the bolster, while the bottom shoes are supported by the links or stirrups. A cross-tie connects the bottom shoes together laterally.

When the car is placed on the trucks the weight, of course, rests on the bolster, which, by means of its shoes, transfers the same to the springs, which, by means of the lower set of shoes and the links, again transfer it to the cross-beams of the rigid frame, from which, by means of the side frames, the weight is transferred to the axles of the wheels; but

that my invention may be fully understood, I will proceed to describe the same in detail by aid of the accompanying drawings.

Figure 1 represents an end view, Fig. 2 a vertical section, and Fig. 3 a plan, of a truck arranged according to my invention. Fig. 4 is a separate view of one of the shoes d^3 .

A is the rigid frame of the truck, which is formed of two side frames, $A' A'$, composed of iron bars $a^1 a^2 a^3$, arranged on the outside of the wheels b , and supported at the ends by the axle-boxes b' . The bar a^1 is carried straight across from axle-box to axle-box and forms the top of the frame, while the bar a^2 forms the under side, and the bar a^3 is so bent as to connect the two bars $a^1 a^2$ and the axle-boxes b' firmly together. The side frames $A' A'$ are connected together by means of the cross-beams $c c$, between which sufficient space is left to allow of the elastic and swinging frame B being placed between them. This frame B is composed of a bolster, B' , on the center of the upper surface of which is placed the socket for the pivot or pin of the car to work in. This bolster B' rests on four elliptic springs, $d d$, two on each side at opposite ends of the bolster. The two springs at each end are carried by links or stirrups $e e$ hung from a bar, f , having bearings f' on the cross-beams c . The straps d^1 which hold the plates of the springs d together fit into shoes $d^2 d^3$. The shoes d^2 are bolted to the bolster, while the shoes d^3 are formed with pins or bearings d^4 , which pass into the links $e e$, and are thereby supported. g is a cross-tie, which connects the bottom shoes d^3 together laterally.

By arranging the springs and bolster in this manner I am enabled to lower the center of gravity, and the body of the truck is thrown intermediate of the diameter of the wheels instead of even with or above the upper edge of the tires, and at the same time I can employ elliptic instead of spiral springs, and thereby obtain a cheaper and better truck.

I do not claim supporting elliptic springs by means of links or stirrups, as this is not new; but

What I do claim, and desire to secure by Letters Patent, is—

1. In combination with the rigid frame A of

a car-truck supported intermediate of the diameter of the wheels of the truck, the bolster B', shoes d^2 , elliptic springs d d , shoes d^3 , links e e , and bars f , arranged and operating substantially as described.

2. In a car-truck, the combination of the rigid frame A composed of side frames A', and cross-beams c with a bolster, B', shoes d^2 ,

elliptic springs d d , shoes d^3 , links e e , and bars f , arranged and constructed to operate substantially as described.

Toronto, 16th of July, 1872.

GEORGE DIXON.

Witnesses:

J. HERBERT BARTLETT,

DONALD C. RIDOUT.