

(No Model.)

I. H. RANDALL.

CAR TRUCK.

No. 272,154.

Patented Feb. 13, 1883.

Fig. 1.

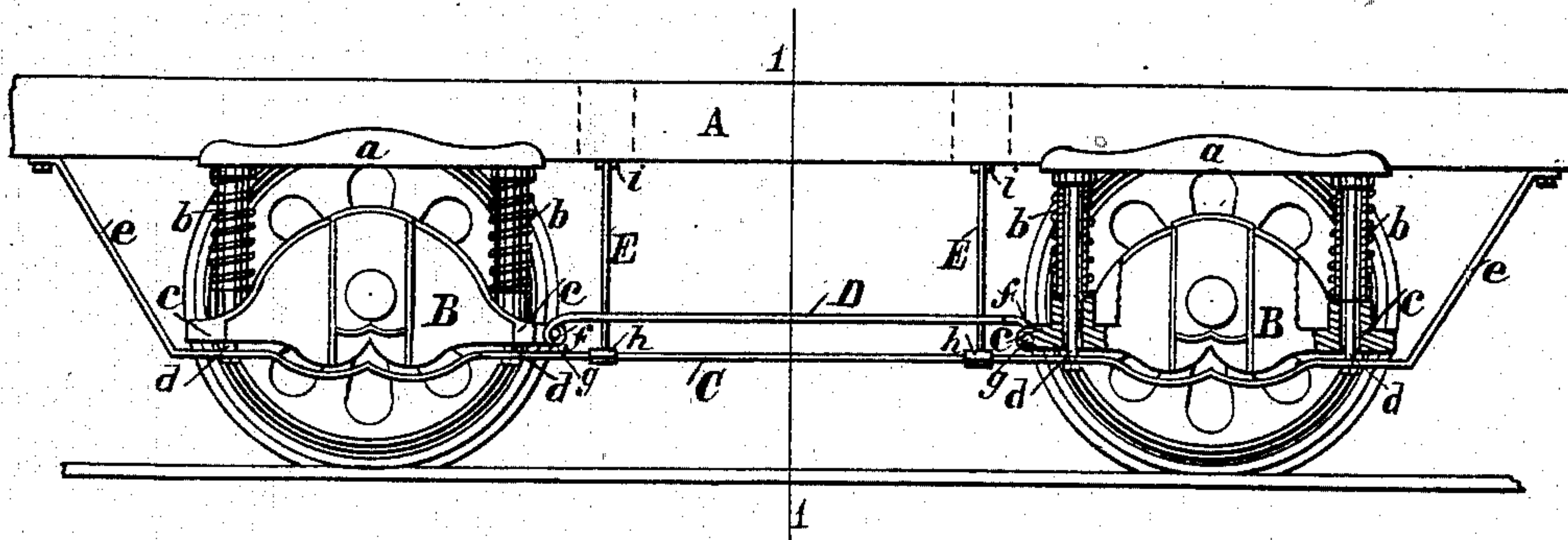
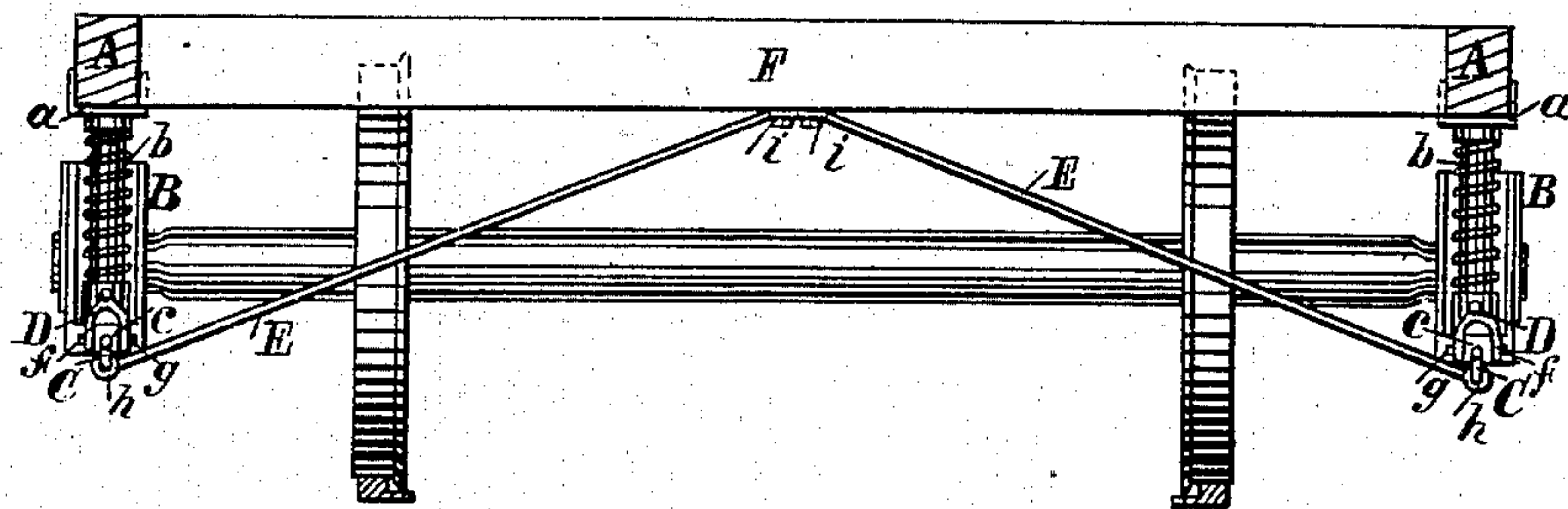


Fig. 2.



Attest;

Geo. L. Procter.  
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Inventor;

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# UNITED STATES PATENT OFFICE.

ISAAC H. RANDALL, OF BOSTON, MASSACHUSETTS.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 272,154, dated February 13, 1883.

Application filed September 9, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC H. RANDALL, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Car-Trucks, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improvement in car-trucks, whereby the axle-boxes are held securely in suitable relation to each other and to the frame by means that add but little to the weight of the truck; and it consists in a rod on each side of the truck, extending from the guide-rods of one box to those of the other box, said rods being formed at the ends as braces, and fastened at the ends to the longitudinal sill, and being further held by cross-rods, which, inclined and fastened to cross-sills, form transverse braces, there being also another rod connecting the two boxes on each side of the truck, having pivotal connections with the boxes, all as hereinafter described.

In the drawings, Figure 1 is a side view of so much of a car and truck embodying my invention as serves for illustration of the same, one set of springs being shown in section. Fig. 2 is a transverse section taken on line 1 1 in Fig 1.

The longitudinal sill A on each side of the car bears on plates *a a*. Two springs, *b b*, intervene between each plate *a* and parts or projections *c c* of an axle-box, B. A long vertical guide-rod or bolt, *d*, extends through each spring *b* and a projection, *e*, or part of a box, said rod or bolt being fixedly secured to a plate, *a*, and the sill, but free in the spring and projection of box, so that the spring and box may have the requisite vertical movement. To the lower ends of the vertical rods or bolts *d* of the two boxes, on each side of the truck, I rigidly secure a rod, C. This rod is given that shape through its length which will provide the necessary strength, while being of small weight, and to best conform in a symmetrical manner to the other parts of the truck. Toward the ends the rod C is bent up to form braces *e*, and at the ends the rod is firmly fastened by bolts, screws, or other suitable means to a longitudinal sill, A. In each side of the

truck another rod, D, connects the boxes directly, having pivotal connections at the ends *f f* with the boxes, so that one box may have a vertical movement independently with reference to the other box. I prefer to have the rod D made forked to embrace a part of a projection, *e*, of each box, there being a hole in each part of a forked end for a bolt or pin, *g*, which passes through the projection of a box, as shown. Cross-rods E are employed to brace the rods C. Each of these rods or braces E is formed at one end, *h*, to clasp and hold firmly a rod, C, and suitably at the other end, *i*, to be fastened to a cross-sill, F. Any two opposite rods or braces E may be of one piece, each end clasping a rod, C, and formed so as to meet the transverse sill at the middle of the rod, where it is fastened to the sill.

It will be readily seen that by means of the longitudinal rods C, connected, as specified, to the guide-rods or bolts *d* and to the sills A, together with the transverse rods E, joined, as set forth, to the longitudinal rods and transverse sills, the boxes will be kept securely in proper relation to each other and to the car-frame, and that by these means the desired result is obtained without greatly increasing the weight of the truck—a great desideratum, especially for horse-cars. The rods D also aid in obtaining the desired result.

I claim as my invention—

1. In combination with the rods C—one on each side—connecting the guide-rods or bolts *d* of the boxes, forming inclined braces *e*, and fastened to the longitudinal sills, as specified, one or more transverse and inclined braces, E, connected to the longitudinal rods C, and fastened each one to a transverse sill at or near midway its length, as set forth.

2. In combination with two boxes on a side of a car-truck, and their guide-rods or bolts *d*, a single continuous rod, C, extending from box to box, and to form inclined braces *e*, and a connecting-rod, D, having a flexible connection or hinged joint with each of the boxes, substantially as described.

ISAAC H. RANDALL.

Witnesses:

EDW. DUMMER,  
ROBERT HAYES.