A. BRIDGES.

Car Truck.

No. 35,410.

Patented May 27, 1862.

Fig. 1.

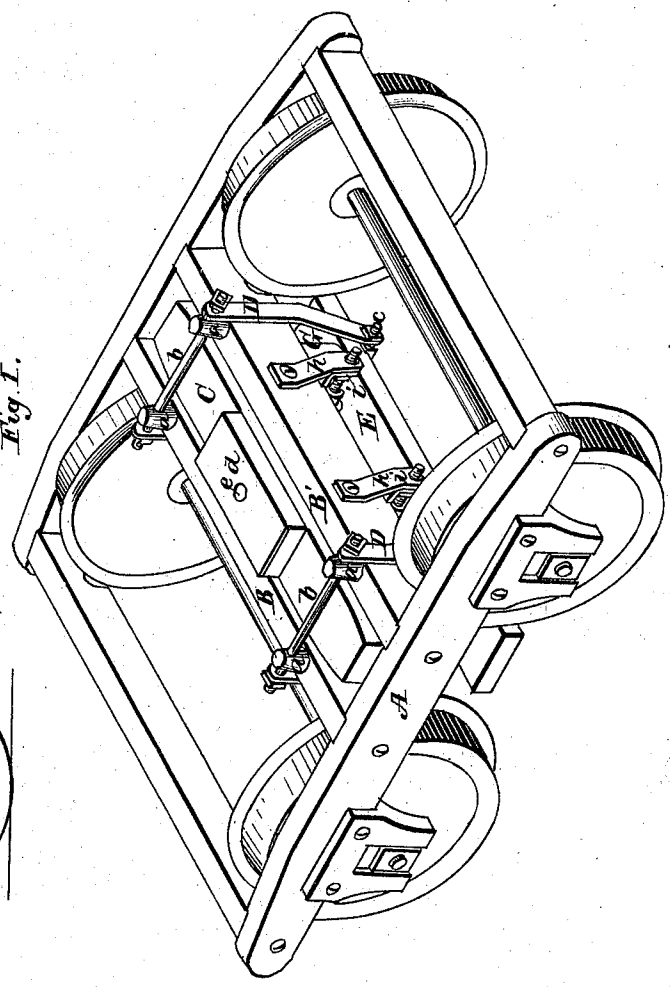


Fig 2.

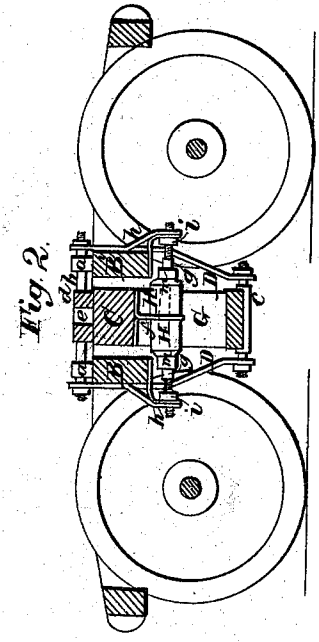
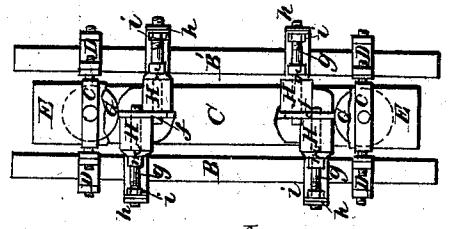


Fig 3.



Witnesses:

P. C. Dieterichs

Edward Mason

Inventor:

Alfred Bridges

by his attorney

Samuel Cooper

Pr. Roach

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALFRED BRIDGES, OF NEWTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND ALBERT BRIDGES, OF NEW YORK, N. Y.

IMPROVEMENT IN CAR-TRUCKS.

Specification forming part of Letters Patent No. **35,410**, dated May 27, 1862.

To all whom it may concern:

Be it known that I, ALFRED BRIDGES, of Newton, in the county of Middlesex and State of Massachusetts, have invented certain Improvements in Suspending the Bolster-Beam of Railroad-Car Trucks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of the truck of a railroad passenger-car; Fig. 2, a longitudinal section; Fig. 3, a plan of under side of the bolster-beam.

In the trucks of railroad passenger-cars as usually constructed the bolster of the car-body rests on a heavy beam, called the "bolster-beam," through which the "body-bolt" or "king-bolt" passes. This beam has been suspended to the cross-sills by swinging bars, so that the frequent oscillations of the truck between the rails may not be communicated so directly to the car-body.

My present invention consists in applying to this swinging bolster-beam springs so arranged that while they still permit the necessary swing of the beam laterally in the truck will relieve the concussion given to the car-body by suddenly arresting the movement of the truck along the rails, as when applying the brakes, or when the truck-wheels meet with any obstruction.

That others skilled in the art may understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the truck-frame, which rests on the axle-boxes in the usual manner. Two heavy cross-sills, B B′, extend from one side of the truck to the other between the wheels, and between these cross-sills is suspended the swinging bolster-beam C in the following manner: From the top of each cross-sill B B′ rises a short stud or bearing, *a*, through each pair of which passes a rod or cross-shaft, *b*. Four heavy hanging bars, D, are pivoted one to each end of the rods *b*. The opposite ends of the bars D are pivoted in pairs to rods *c*, on which rests a plank, E, which is thus permitted to oscillate transversely of the truck. On this plank or beam are placed two heavy springs, G, (india-rubber or other,) on which the bolster-beam C rests, one spring being placed near each end of the beam, the springs being attached to the beam C and plank E. The bolster of the car-body rests on the bolster-beam C or on a block, *d*, attached thereto, and the king-bolt passes through the hole *e*. Side bearings (either rolls or friction-plates) receive the bearing of the car-body on each end of the bolster-beam C to arrest the rocking of the car-body.

Thus far the arrangement of the parts is similar to what has already been used; but it is found in practice that where the bolster-beam C has sufficient play between the cross-sills B B′ to permit the beam to oscillate freely, as is necessary, there is an unpleasant jar between the beam and the sills, which is communicated to the car-body whenever the truck is arrested in its movement along the rails by the application of the brakes, or by meeting obstructions on the rails. This I have arrested in the following manner: From the under side of the beam C, toward each end, projects a plate or flat standard, *f*, on either side of which a rubber spring, H, is placed. A rod, *g*, passes through the spring. One end of this rod is inserted in the plate *f* and the other end, on which a screw is cut, passes through a hole or slot in a bracket, *h*, attached to the cross-sill B or B′, the hole in the bracket being larger than the rod *g* to permit a sufficient play. A nut, *i*, on the rod *g* is turned up against the inner face of the bracket *h* to apply the required amount of pressure to the spring H, a cap, *m*, on the rod bearing against the springs. The play of the rod *g* in the bracket *h* permits the desired oscillation of the beam C across the truck, while the springs H arrest and relieve the concussion of the beam against the cross-sills, and by giving more space between the beam C and the cross-sills and receiving the strain on these springs H the torsion on the truck on turning curves and the friction of the bearings of the car-body on the ends of the beam C are considerably relieved.

The springs H may be applied to the beam C somewhat higher up, where it is found convenient to do so without weakening the cross-sill; or a set of these springs H may be applied to the top of the beam C, but generally this would be in the way of the brake-rods. The

square ends of the springs H, bearing against the flat standards *f*, also tend to check a too free swing of the bolster-beam laterally and eases the jar which is given to the car-body by this beam bringing up suddenly at the limit of its swing.

What I claim as my invention, and desire to secure by Letters Patent, is—

The application of springs H, or their equivalents, on each side of the bolster-beam C, substantially in the manner and for the purpose specified.

ALFRED BRIDGES.

Witnesses:
THOS. R. ROACH,
P. E. TESCHEMACHER.