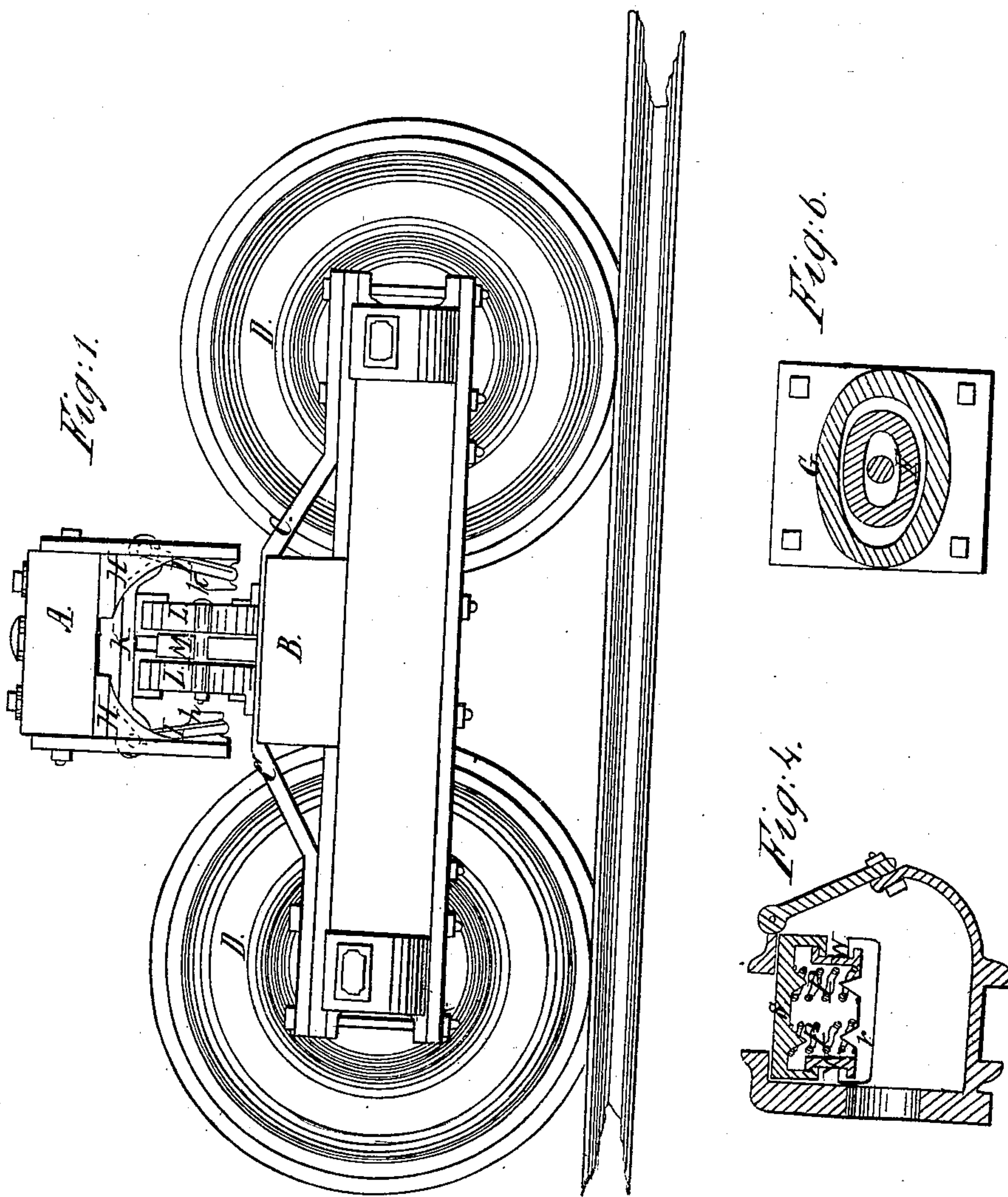


T. L. WILSON.
RAILWAY CAR TRUCK.

No. 87,086.

Patented Feb. 16, 1869.



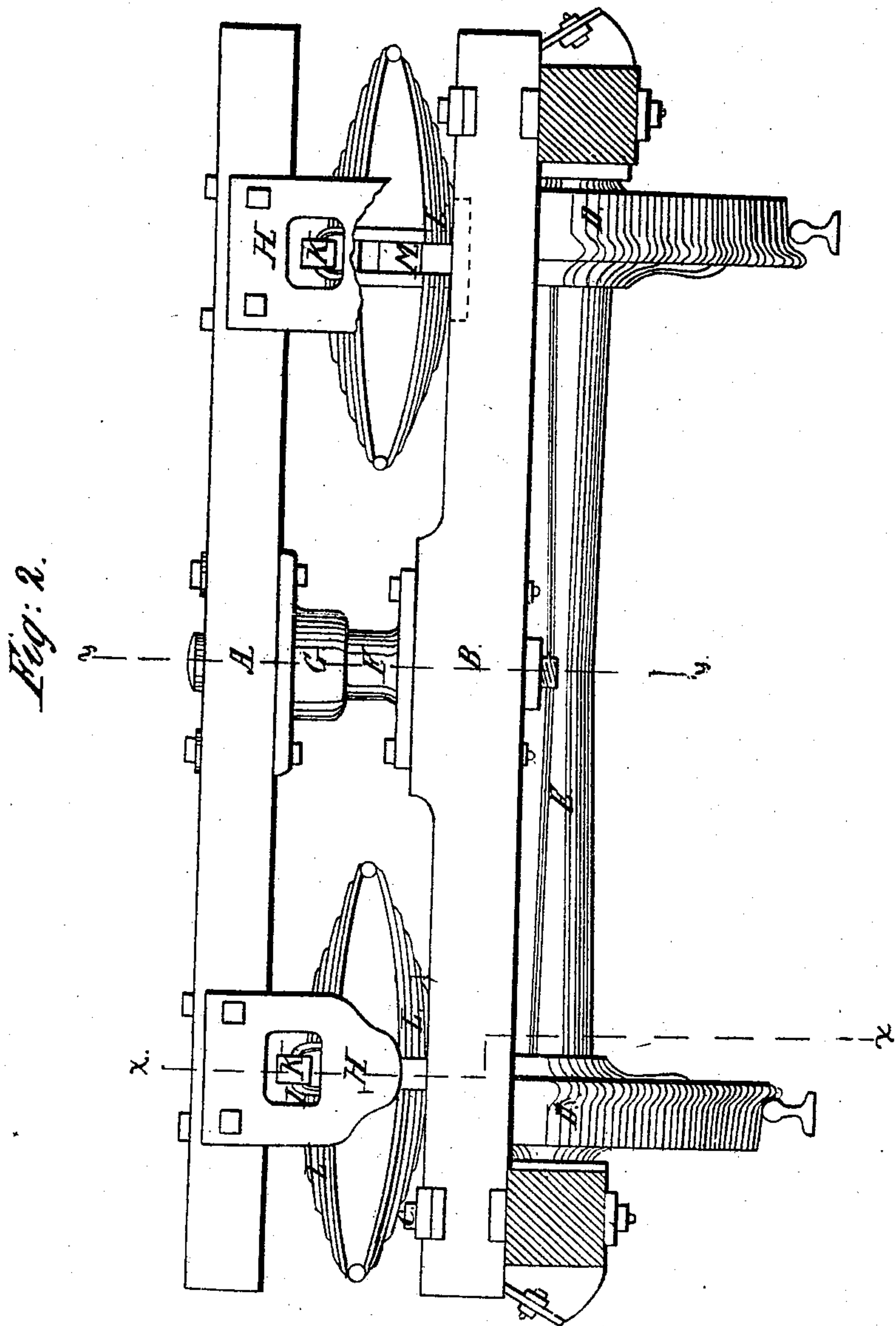
Witnesses.
Wm. H. Rowe.
J. M. Burr.

Inventor.
Thos. L. Wilson
By David A. Burr

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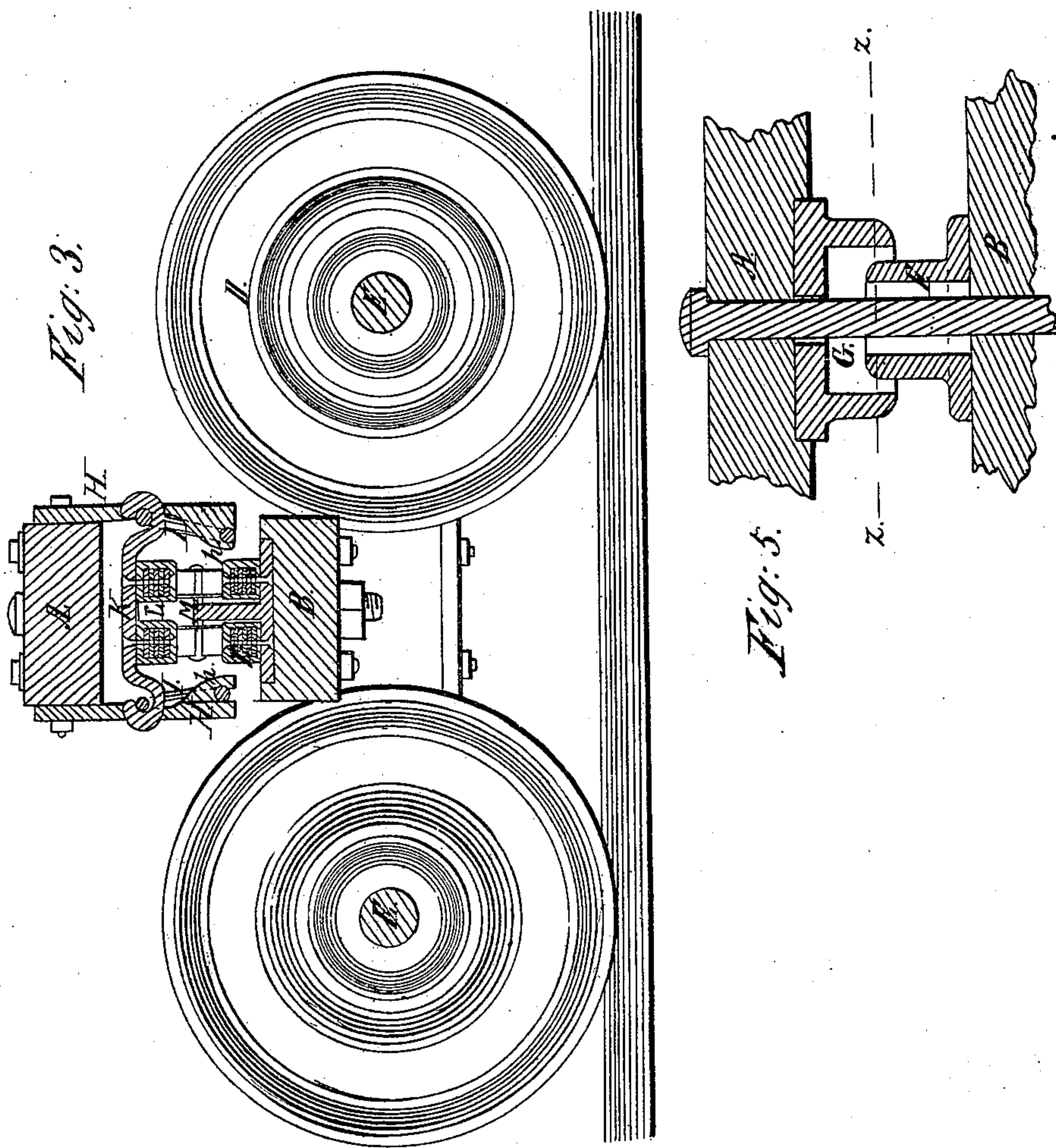
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Witnesses.
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United States Patent Office.

THOMAS L. WILSON, OF DARLINGTON, ENGLAND, ASSIGNOR TO GYLES MERRILL AND JOHN W. HOBART, OF ST. ALBANS, VERMONT.

Letters Patent No. 87,086, dated February 16, 1869.

IMPROVED RAILWAY-CAR TRUCK

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS L. WILSON, of Darlington, in the county of Darlington, England, mechanical engineer, have invented a new and improved Anti-Friction Truck for Railway-Cars; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of the truck, (as adapted to freight cars;)

Figure 2, a front elevation of the bolsters;

Figure 3, a vertical section in line *x x* of fig. 2;

Figure 4, a vertical longitudinal section through one of the axle-boxes in line of the axle;

Figure 5, a detached vertical section in line *y y* of fig. 2; and

Figure 6, a detached transverse section in line *z z* of fig. 5, illustrating the form of the crown-plates.

Similar letters indicate like parts in all of the figures.

In the ordinary car-trucks, now in use, friction-wheels, plates, or rollers, are generally employed in various combinations, for the purpose of allowing the car to adapt itself, without strain, to the curvatures of the track; but, with the devices heretofore employed, there is a tendency to spread the track when the trucks and car pass the curves, causing considerable wear and tear, both to the permanent way and to the rolling stock.

In my invention, I dispense with all friction-wheels, plates, or rollers, swinging bolsters, jaws, and levers, and also with the rubber springs now so much in use, and by a novel combination and arrangement of steel springs with the bolsters, and of an improved form of crown-plates, permit a gentle radial, as well as a lateral movement, to be communicated to the truck and car, so that it may readily adapt itself to the curvature of the permanent way, and obviate all strain and unnecessary friction between it and the rolling stock, my improved trucks being constructed, also, at a less cost in the first construction thereof.

The nature of my invention consists in suspending the car-bolsters by means of swinging links, in suitable brackets, upon steel springs secured to the truck-bolsters, so that the car-bolster may have a slight degree of rotary movement upon its axis, and also a slight lateral or longitudinal play.

It consists, likewise, in a novel form of crown-plates, to facilitate the lateral play of the car-bolster, and in devices for confining spiral springs within the axle-boxes.

In the accompanying drawings—

A is the car-bolster, of wood;

B, the truck-bolster;

C C, the ordinary side-connecting bars;

D D, the car-wheels;

E E, their axles;

F, the male crown-plate; and

G, the female crown-plate, steadying the bolsters A and B.

These crown-plates differ from the ordinary crown-plates now in use, in that they are made oval or oblong, in section, as illustrated in fig. 6, and are so combined with the bolsters as to allow a lateral play or motion to the truck in the line of the axles.

H H are metallic brackets, bolted to the sides of the car-bolster A, as illustrated in figs. 1, 2, and 3, of the drawings.

These brackets may be made of cast-iron.

They are provided with hooks *h h*, figs. 1 and 3, on their inner sides, to engage the links I I, by means of which the bolster A is suspended upon the springs L L of the truck.

K K are the link-carriers, and consist of bars or plates laid transversely upon the springs L L, and provided with hooked ends, from which the links bearing the brackets H and bolster A are suspended.

The springs L L are of steel, of the ordinary elliptic form.

M M are spring-guide plates, which may be made of cast-iron.

These are firmly secured to the truck-bolster B, and the springs L L are placed thereon, on either side of the central projecting guides *m m*.

P P are spiral springs, placed over the brass bearings in the axle-boxes, to overcome all shocks from the unevenness of the track.

These springs are secured between the bearing-plates *r*, of the axle-journals, and upper seat-plates *s*, by means of side plates W W, whose edges are turned or folded over, to engage the folded or turned edge of flanges projecting from the bearing-plates and seat-plates *s*, as fully illustrated in fig. 4 of the drawings.

The car, resting upon the bolsters A A, is swung and suspended by means of the brackets H H of the bolster and links I I, hanging from the link-carriers K K, directly upon the elliptic springs L L, which are placed between the brackets upon the guide-plates M M, secured to the truck-bolsters B.

By thus suspending the car-bolsters A over the springs, upon swinging links pendent therefrom, a certain freedom of motion, independent of the truck, is permitted to the car, so that the car will readily adapt itself to the permanent way without strain, in turning curves, and without that tension and thrust upon the rails which would otherwise produce a spreading thereof. The freedom of motion thus obtained is secured without friction, and without rollers, extra springs, or any complicated devices.

The bolsters A and B are connected and steadied in the usual manner, by crown-plates F and G, made oblong in form, to permit a slight lateral, as well as rotary movement of the bolsters, independently of each other.

My invention is equally as well adapted to a six-wheel truck, for passenger-cars, as to a four-wheel truck, as illustrated in the drawings.

Having thus fully described my invention,

I claim therein as new, and desire to secure by Letters Patent—

1. The improved spring-link brackets H, links I, hooked link-carriers K, spring-guides M, and springs L, when combined with each other, and with the bolsters A and B of a railroad-car truck, to operate substantially in the manner and for the purpose herein set forth.

2. The crown-plates F G, having an extended or oblong transverse section, when combined with the bolsters A and B of a railroad-car truck, substantially in the manner and for the purpose herein set forth.

3. The combination of the hooked-edge tie-plates W with the bearing or journal-plate r, and upper seat-plate s, and with interposed spiral springs P P, within the axle-box of a railroad-car truck, substantially in the manner and for the purpose herein set forth.

THOMAS L. WILSON.

Witnesses:

GUY C. NOBLE,
CROM. BOWEN.