

(No Model.)

2 Sheets—Sheet 1.

J. STEPHENSON.
TRACK BRAKE.

No. 412,561.

Patented Oct. 8, 1889.

Fig. 1.

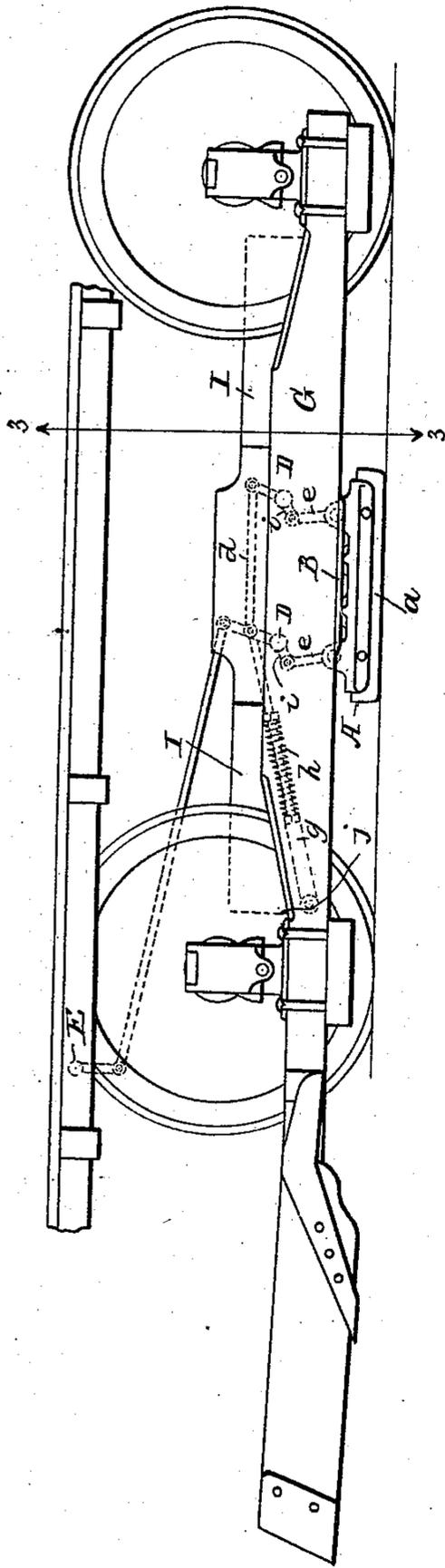
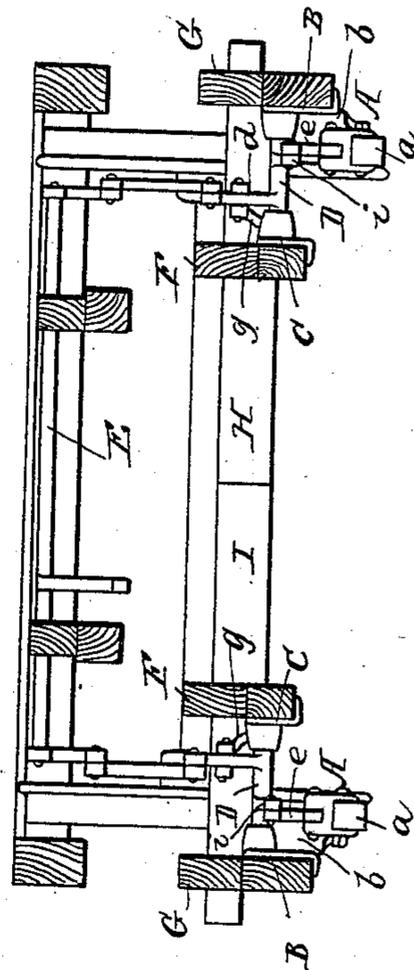


Fig. 3.



Witnesses
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John Stephenson
Inventor

By his Attorneys
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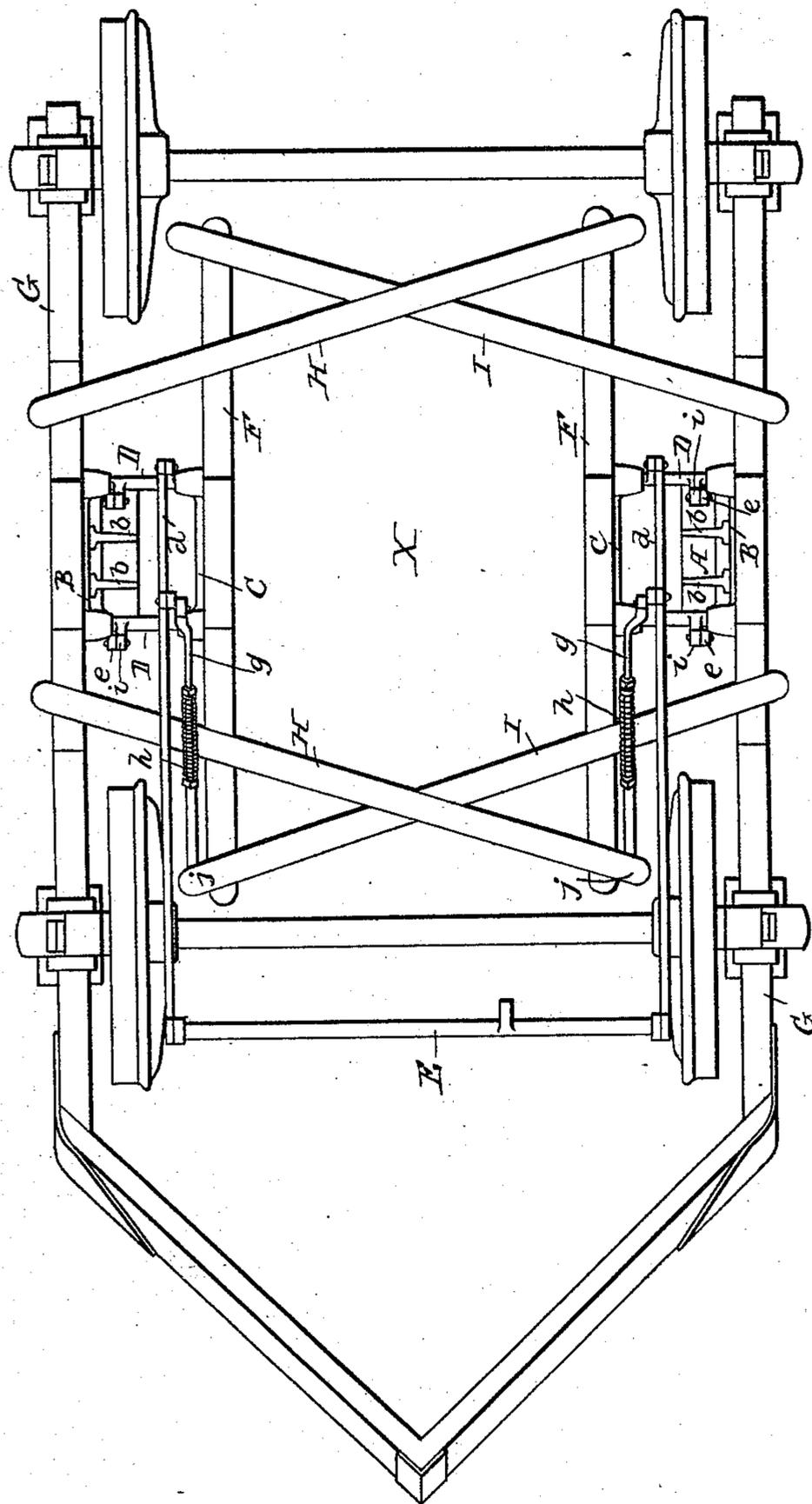
2 Sheets—Sheet 2.

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Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN STEPHENSON, OF NEW YORK, N. Y.

TRACK-BRAKE.

SPECIFICATION forming part of Letters Patent No. 412,561, dated October 8, 1889.

Application filed August 12, 1889. Serial No. 320,458. (No model.)

To all whom it may concern:

Be it known that I, JOHN STEPHENSON, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Track-Brakes, of which the following is a specification.

Cable tramways are especially adapted to roads of steep grades, and experience has demonstrated that a well-constructed track-brake will hold a car on grades impracticable for wheel-brakes, and my invention is for a track-brake of more efficiency, greater durability, and affording greater relief to the car-body from deleterious service and with less labor for the operator and more quiet and comfort to passengers than those of ordinary construction.

In the accompanying drawings, Figure 1 is an elevation of sufficient of a tram-car to illustrate my invention. Fig. 2 is a plan. Fig. 3 is a cross-section on the line 3 3, Fig. 1.

The track-brake has its shoe-sole *a* of wood, which, though most efficient in stopping a car, is short-lived, needing frequent renewal. It is therefore desirable that the sole be thick and that the vertical motion of the shoe be sufficient to wear out the shoe, and that also the mechanism of the brake may enable the operator to quickly apply the brake and place the entire weight of the car on the brake-shoes. Though this kind of brake may be worked at either end of the car or at its middle, in the construction shown the mechanism of the brake is adapted to the operator's location at the car-front.

In the construction of the track-brake as shown there are two track-shoes *A* with wood soles—one at each side of the car—and each shoe has one or more vertical guide-posts *b*, adapted to move in channel-guides. There are four vertical housing-plates *B B C C*, the former containing the channel-guides, and said plates have sockets or bearings for the ends of four rock-shafts *D*. Each pair of rock-shafts is connected by an articulated coupling-bar *d*, and there are four shoe-coupling bars *e*, connecting the track-shoes with crank-arms *i* of the track-brake rock-shafts. Each pair of rock-shafts is connected by a coupling rock-

shaft *E*, connected by the usual energy-rod with the operator's lever and its appurtenances. (Not here shown.)

The housings *C C* are supported by two cheek-sills *F F*, and the housings *B B* are carried by the two truck-sills *G G*, with their ends secured to the pendent limbs of the four axle-box shells outside the car-wheels. The two sills *G G* support the four ends of two pairs of composite crossed bars *H I*, carrying the four ends of the two cheek-sills, which, together with the two crossed bars, form the six sides of a grip-well *X* central to the truck. The space between each sill *G* and its approximate cheek-sill *F* constitutes a track-brake well adapted to be occupied by a half-section of the track-brake mechanism.

One arm on each pair of rock-shafts *D D* has an articulated recoil-rod *g*, carrying a spring *h*, abutting near the terminus of the loose end of a composite cross-rail *j*.

Without limiting myself to the precise construction and arrangement of parts shown, I claim—

1. A car-track brake with a shoe adapted to be lifted and depressed by connections with rock-shafts whose outer ends are journaled in housings connected to truck-sills that are sustained by pendants integral to the axle-box shells, the truck-sills carrying the ends of crossed bars, which crossed bars carry the inner cheek-sills, and the cheek-sills supporting the housings for the inner end of the rock-shafts, substantially as and for the purpose described.

2. A track-brake in two sections, each of which sections occupies a well or four-sided inclosure at one of the sides of a car-truck having a central six-sided grip-well, with four of its sides formed by the two crossed rails, with their four ends connected with the side sills of the truck, and also forming the four end walls of two track-brake wells whose sides are inclosed by the two truck-sills and the two cheek-sills, the ends of the latter carried by the ends of the crossed rails, substantially as described.

3. A track-brake located in a car-truck, with a six-sided grip-well having two of the well-sides formed by the two cheek-sills par-

allel with the two truck-sills and each of the
four sills supporting parts of the mechanism
of a track-brake, the other four sides of the
well being formed by the two composite cross-
5 rails, substantially as and for the purpose de-
scribed.

In testimony whereof I have signed my name

to this specification in the presence of two sub-
scribing witnesses.

JOHN STEPHENSON.

Witnesses:

JOS. B. STEPHENSON,

S. A. STEPHENSON.