

J. JOHNSON.
Car-Brake.

No. 204,491.

Patented June 4, 1878.

Fig. 2.

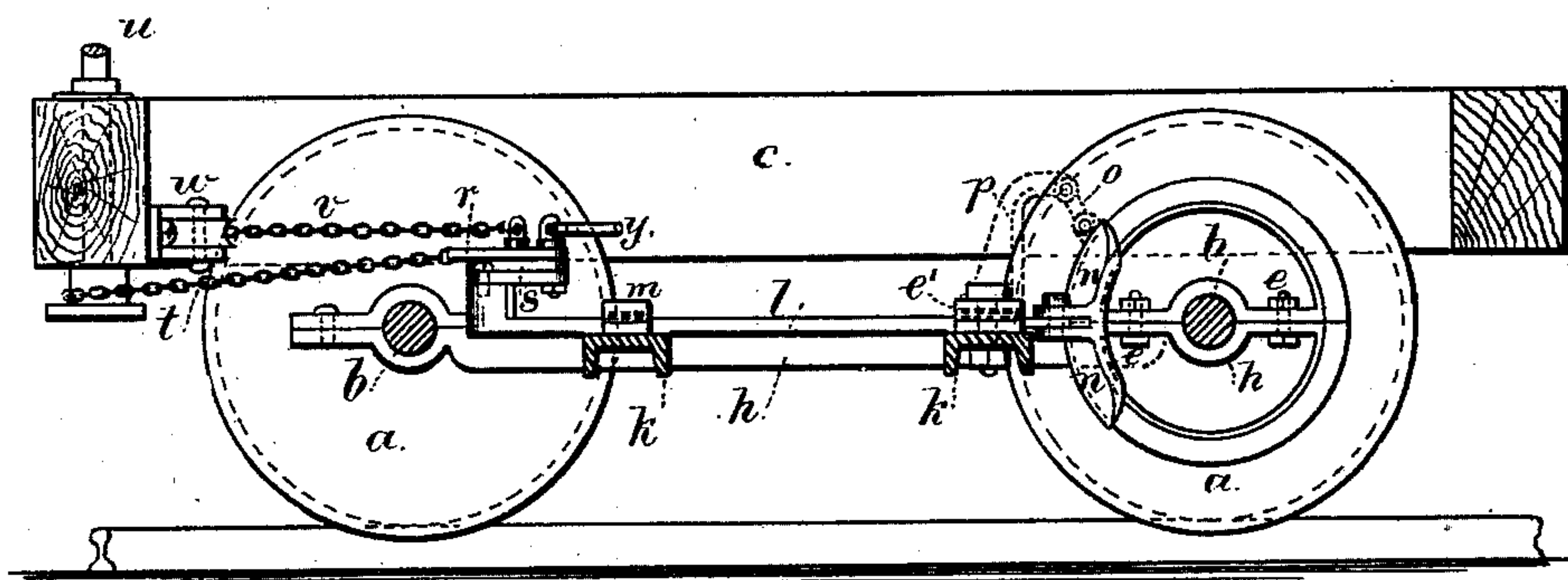
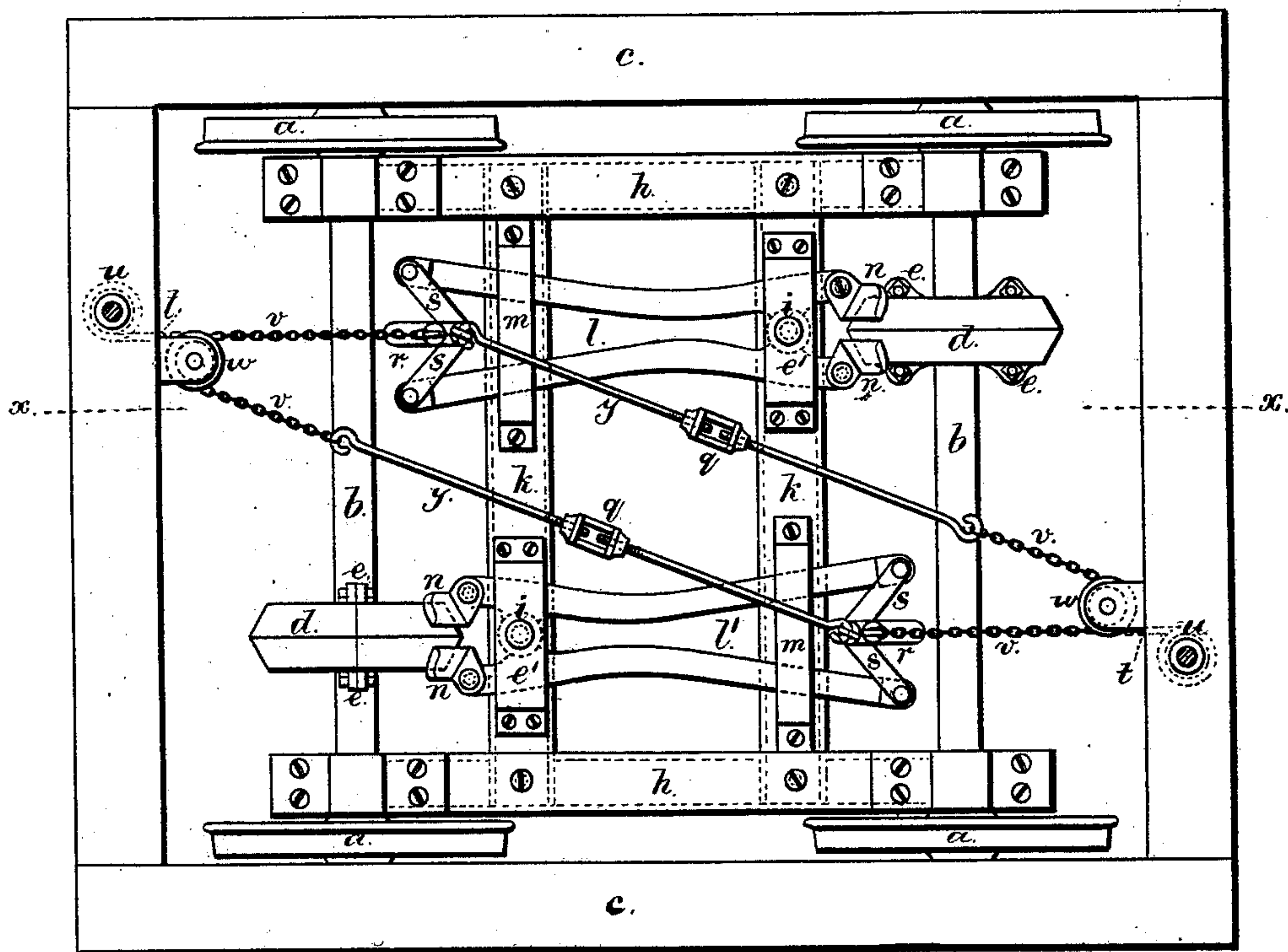


Fig. 1.



Witnesses

Chas H. Smith
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Inventor

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per Lemuel H. Serrell
att

UNITED STATES PATENT OFFICE.

JOB JOHNSON, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **204,491**, dated June 4, 1878; application filed April 8, 1878.

To all whom it may concern:

Be it known that I, JOB JOHNSON, of Brooklyn, in the county of Kings and State of New York, have invented an Improvement in Car-Brakes, of which the following is a specification:

I make use of friction-wheels upon the axles of the car-wheels, such friction-wheels having double conical surfaces, and the brake-shoes act at each side against such surfaces, the said shoes being at the ends of compound levers, and the toggle-bars, levers, and chains are arranged in such a manner relatively to the actuating hand-wheels that two pairs of brakes are operated by the hand-wheel at either end of the car.

In the drawing, Figure 1 is a plan of the truck and brake mechanism, and Fig. 2 is a vertical section of the parts at the line *x x*.

The car-wheels *a a* and axles *b b* are of usual character. *c* represents the truck-frame or car-platform. The pillar-blocks, axle-boxes, and springs are of any usual character. They, however, are not shown in the drawing.

Upon each axle there is a brake-wheel, *d*, made in two parts, bolted together at *e*, so that worn-out wheels can be removed and replaced by others.

I am aware that wheels have before been connected in this manner to car-axles. The faces of these brake-wheels are double truncated cones, with the bases together, so that they incline from the largest diameter each way toward the axle.

There is a frame, *h*, extending from one axle to the other, with cross-bars *k*, that connect the frames *h* together, and also support the brake-levers *l l'*, that are placed in pairs adjacent to the respective brake-wheels *d* and swing upon the fulcrums *i*. There are supporting-plates *e'*, between which and the bars *k* the levers *l l'* swing, and there are guide-bars *m*, beneath which the levers *l l'* move where the levers cross the bar *k*.

Each lever is provided with a shoe or brake-block, *n*, hinged or pivoted to its end, and of a shape adapted to the face of the brake-wheel.

It is generally preferable to suspend the brake-blocks by links *o* from a bracket or standard, *p*, as shown by dotted lines in Fig. 2; but these may be dispensed with.

At the moving ends of the levers *l l'* there

are toggle-bars *s s*, hinged together and to the levers; and at the central hinges there are link-plates *r*, to which three connections are made. The first is by a chain, *t*, to the brake-shaft *u*, by means of which the toggle and its levers are operated by a direct connection to the brake-shaft *u* and its ordinary hand-wheel. The second connection is by the chain *v*, around the pulley *w*, to one of the rods *y*, that connects with the link-plate *r* of the adjacent brake-levers, and this forms the third connection, the parts being duplicated, so as to connect from one pair of brake-levers to the other and from the hand-brakes at both ends of the car.

There are shackles *g* to the bars or rods *y*, so as to adjust the length of the connecting parts, and cause the chain *t*, at one end of the car, to properly draw upon the rods *y* and chain *v* around its pulley *w*, and act upon the toggle-bars *s* of the adjacent brake with the same force, or nearly so, that it acts upon the toggles and brake-levers, to which such chain is directly connected.

By this means a powerful force is brought to bear against the brake-wheels to stop the car, and by this construction the wheels are relieved from the wear and grinding action of the brake-shoes, and the truck-frame, pillar-blocks, journals, and boxes are relieved of the wear and strain consequent upon the application of the ordinary brakes.

I remark that, instead of the chains *t* passing to the hand-brake shafts, they might be connected to the ordinary air-brakes.

I claim as my invention—

1. The combination, with the brake-wheels, of the shoes *n*, the levers *l l'* for holding and operating such brake-shoes, the toggle-bars *s*, and the frame *h k*, supported upon the axles *b*, substantially as set forth.

2. The levers *l l'*, arranged in duplicate pairs, and provided with the brake-shoes and toggle-bars *s*, in combination with the chains *t v*, pulleys *u*, and connecting-rods *y*, substantially as set forth.

Signed by me this 22d day of March, A. D. 1878.

JOB JOHNSON.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.