J. JOHNSON.

Car-Brake.

No. 204,491. Patented June 4, 1878.

Fig. 2.

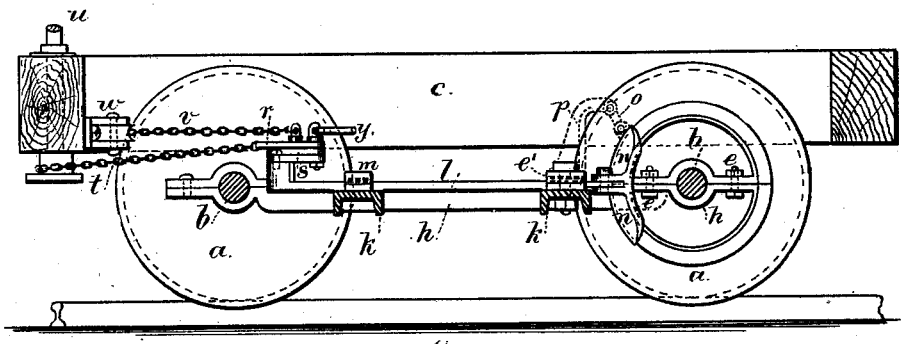
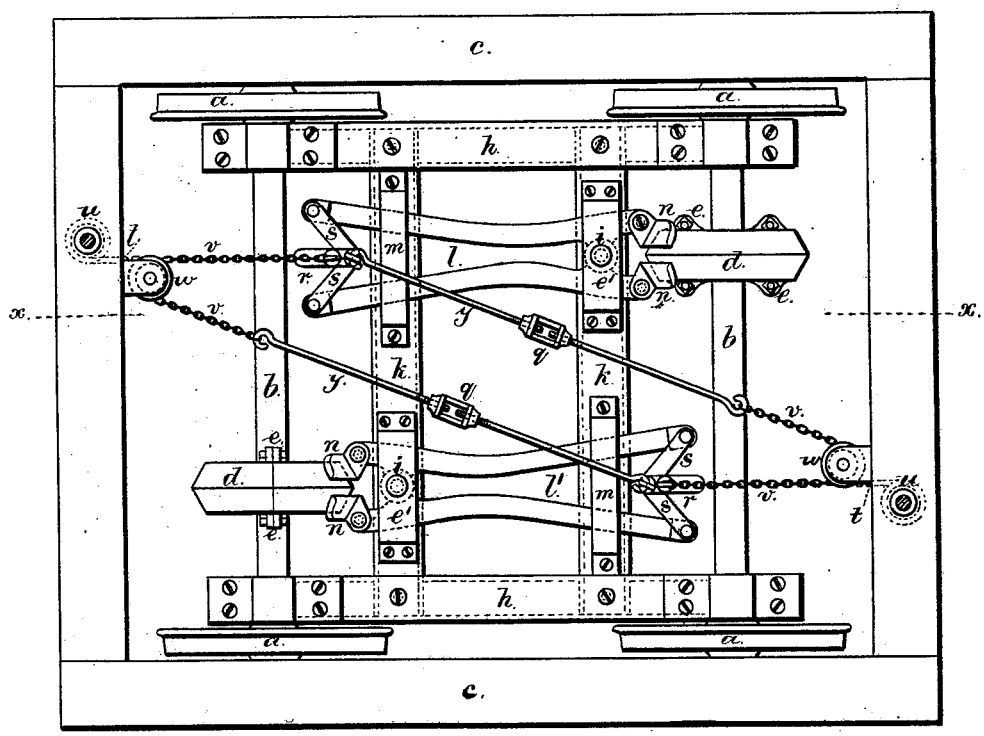


Fig. 1.



Witnesses

Chas. H. Smith

Geo. T. Pinckney

Inventor

Job Johnson.

per Lemuel W. Serrell

Atty

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.